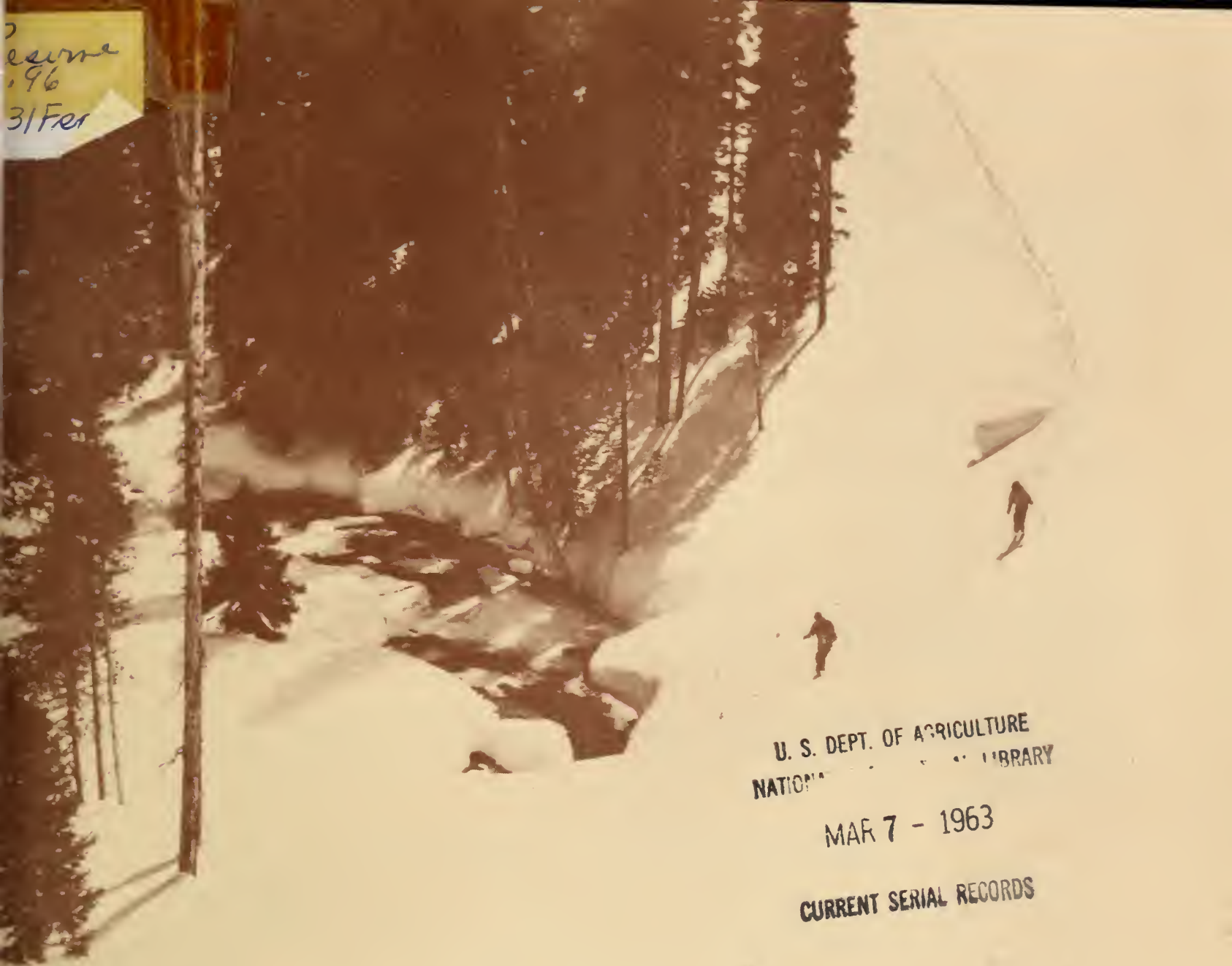


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CURRENT SERIAL RECORDS

WATER SUPPLY OUTLOOK and FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS for OREGON

UNITED STATES DEPARTMENT of AGRICULTURE--SOIL CONSERVATION SERVICE
and
OREGON STATE UNIVERSITY
and
STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above
in cooperation with other Federal, State and private organizations.

AS OF
FEB. 1, 1963

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Water Supply Forecasting Unit, Soil Conservation Service, P.O. Box 4170, Portland 8, Oregon.

PUBLISHED BY SOIL CONSERVATION SERVICE

<u>REPORTS</u>	<u>ISSUED</u>	<u>LOCATION</u>	<u>COOPERATING WITH</u>
RIVER BASINS			
WESTERN UNITED STATES	MONTHLY (FEB.-MAY)	PORTLAND, OREGON	ALL COOPERATORS
STATES			
ALASKA	MONTHLY (MAR.-MAY)	PALMER, ALASKA	ALASKA S.C.D.
ARIZONA	SEMI-MONTHLY (JAN.15 - APR.1)	PHOENIX, ARIZONA	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORADO AND NEW MEXICO	MONTHLY (FEB.-MAY)	FORT COLLINS, COLORADO	COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO	MONTHLY (JAN.-JUNE)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
MONTANA	MONTHLY (JAN.-JUNE)	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
NEVADA	MONTHLY (JAN.-MAY)	RENO, NEVADA	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
OREGON	MONTHLY (JAN.-JUNE)	PORTLAND, OREGON	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH	MONTHLY (JAN.-JUNE)	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER
WASHINGTON	MONTHLY (FEB.-JUNE)	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB.-JUNE)	CASPER, WYOMING	WYOMING STATE ENGINEER

PUBLISHED BY OTHER AGENCIES

<u>REPORTS</u>	<u>ISSUED</u>	<u>AGENCY</u>
BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	WATER RIGHTS BR., DEPT. OF LANDS, FORESTS AND NATURAL RESOURCES, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIF. DEPT. OF WATER RESOURCES, P.O. BOX 388, SACRAMENTO, CALIF.

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
OREGON

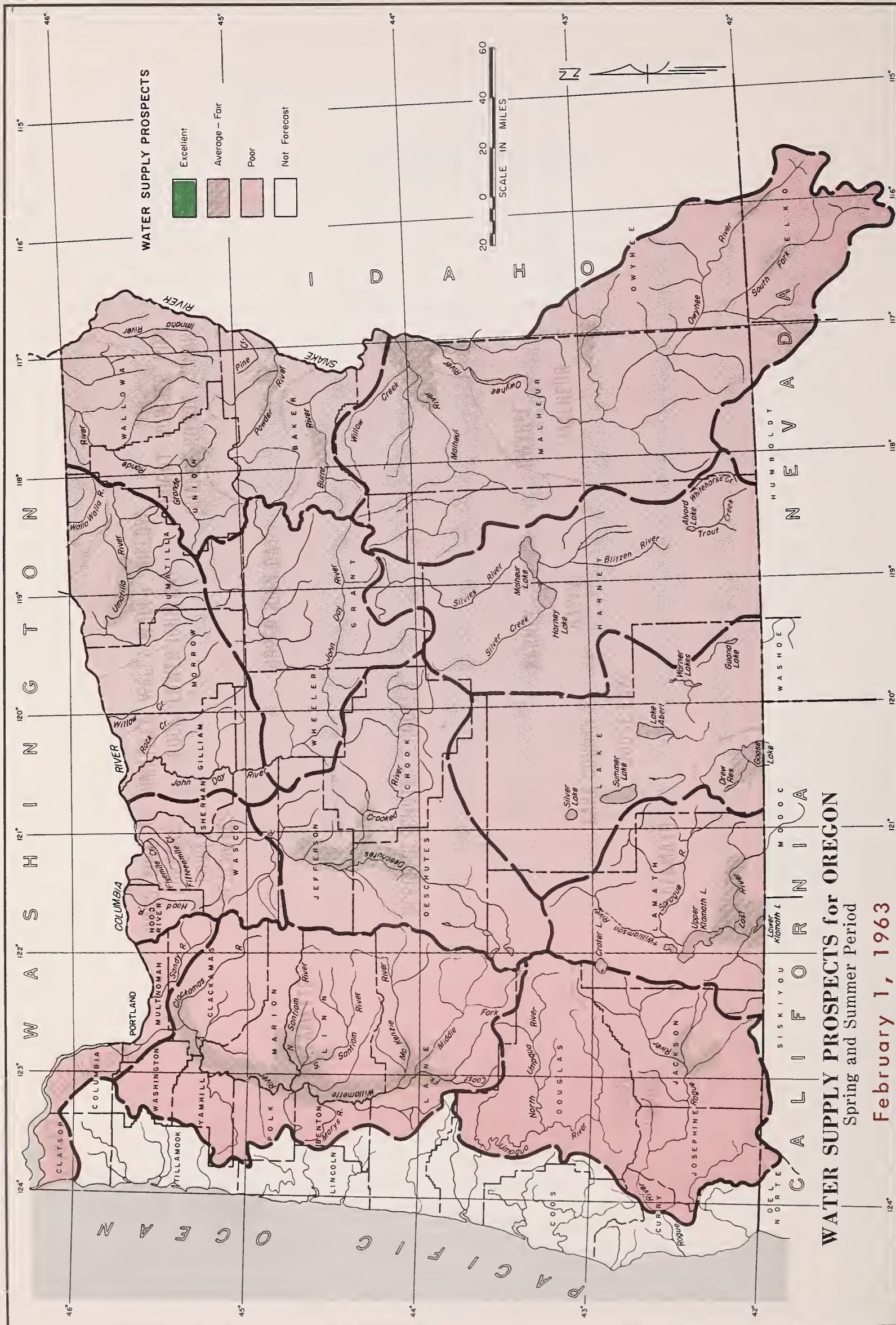
ISSUED
FEBRUARY 8, 1963

Report prepared by
W. T. FROST, Snow Survey Supervisor
and
BOB L. WHALEY, Assistant Snow Survey Supervisor
SOIL CONSERVATION SERVICE
209 S.W. 5TH AVE., PORTLAND 4, OREGON

THOMAS P. HELSETH STATE CONSERVATIONIST SOIL CONSERVATION SERVICE	F. EARL PRICE DIRECTOR OREGON AGRICULTURAL EXPERIMENT STATION	CHRIS L. WHEELER STATE ENGINEER STATE OF OREGON
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WATER SUPPLY OUTLOOK for OREGON

February 1, 1963

Oregon's water supply outlook for the spring and summer months of 1963 is extremely poor except where adequate reservoir facilities can provide stored water. Reservoirs continue to gain storage from recent heavy rains and melting of snow up to elevations of 7000 feet. Snowpack is nearly record low and summer streamflow will much below average resulting in drastic "shortages" for most lands without access to stored water supplies.

SNOW COVER

The mountain snowpack is close to record low in most Oregon watersheds and averages only 25 percent of the February 1 normal. The small gain in snowpack made during the last of January has been almost completely "wiped out" by warm rains in early February.

It is highly unlikely that remaining winter storms will "make up" the present shortage of snow cover. In fact, the shortage is so great that normal snowfall occurring between now and April 1 will raise the total snowpack to only one-half of the average.

SOIL MOISTURE

Soils on upper watershed areas under the snowpack are all well recharged with moisture from heavy fall rains.

RESERVOIR STORAGE

Water stored in 24 major reservoirs in the state is 78 percent of the 15 year average (1943-57) and 145 percent of last year's amount on February 1. Early February runoff has contributed to good gains in stored water supplies. Some reservoirs are still considerably behind in storage and will provide only a partial water supply for lands they serve. These reservoirs are McKay in Umatilla County, Fish Lake and Fourmile Lake in Jackson County.

STREAMFLOW

Forecasts for streamflow during the irrigation season, April-September, vary from about 25 percent average on the Owyhee, Silvies and Crooked Rivers to 75 or 80 percent in northeastern Oregon on the Wallowa River. Inflow to Gerber, Clear Lake and Drews Valley reservoirs in southcentral Oregon is estimated at 32 percent average. Most other streams are forecast between 40 and 70 percent of average.

Most small streams will have extremely short flows providing only one good irrigation this season.

(continued on next page)

(continued from Page 1)

Streamflow* during January has been extremely low due to below normal precipitation and cold temperatures. The Umpqua and Rogue rivers have produced 15 and 35 percent average flows and the Middle Fork of the Willamette 29 percent average.

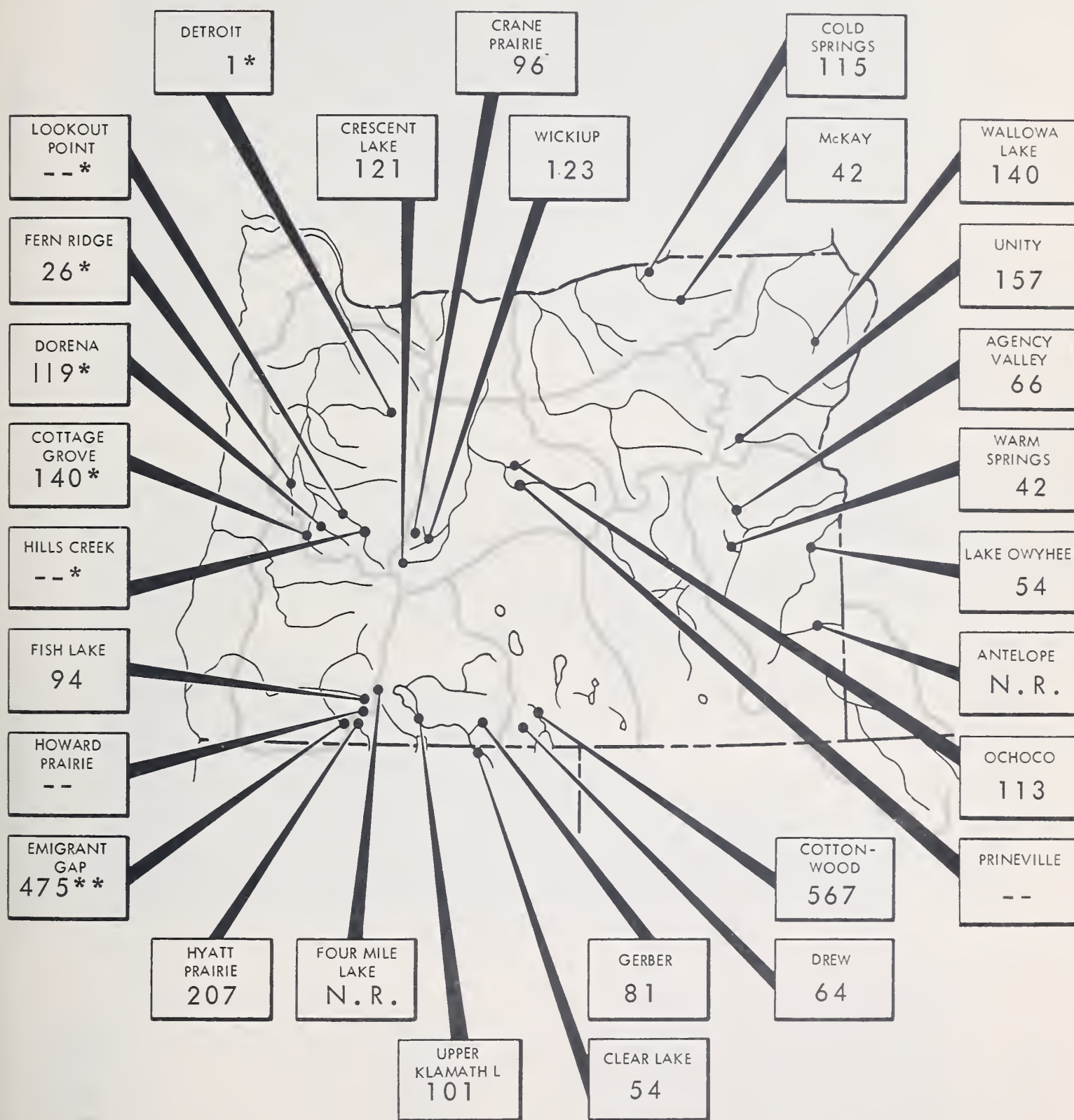
Hood River, John Day River and Umatilla River had runoffs that were 48, 45, and 33 percent of average.

The above forecasts will be reduced if snowfall during February and March fails to accumulate at the average rate.

* Preliminary data from U. S. Geological Survey, Portland, Oregon.

STORAGE STATUS of OREGON RESERVOIRS as percent of 1943-57, 15 year average

FEBRUARY 1, 1963



* - Multiple purpose reservoir - space reserved primarily for flood runoff.

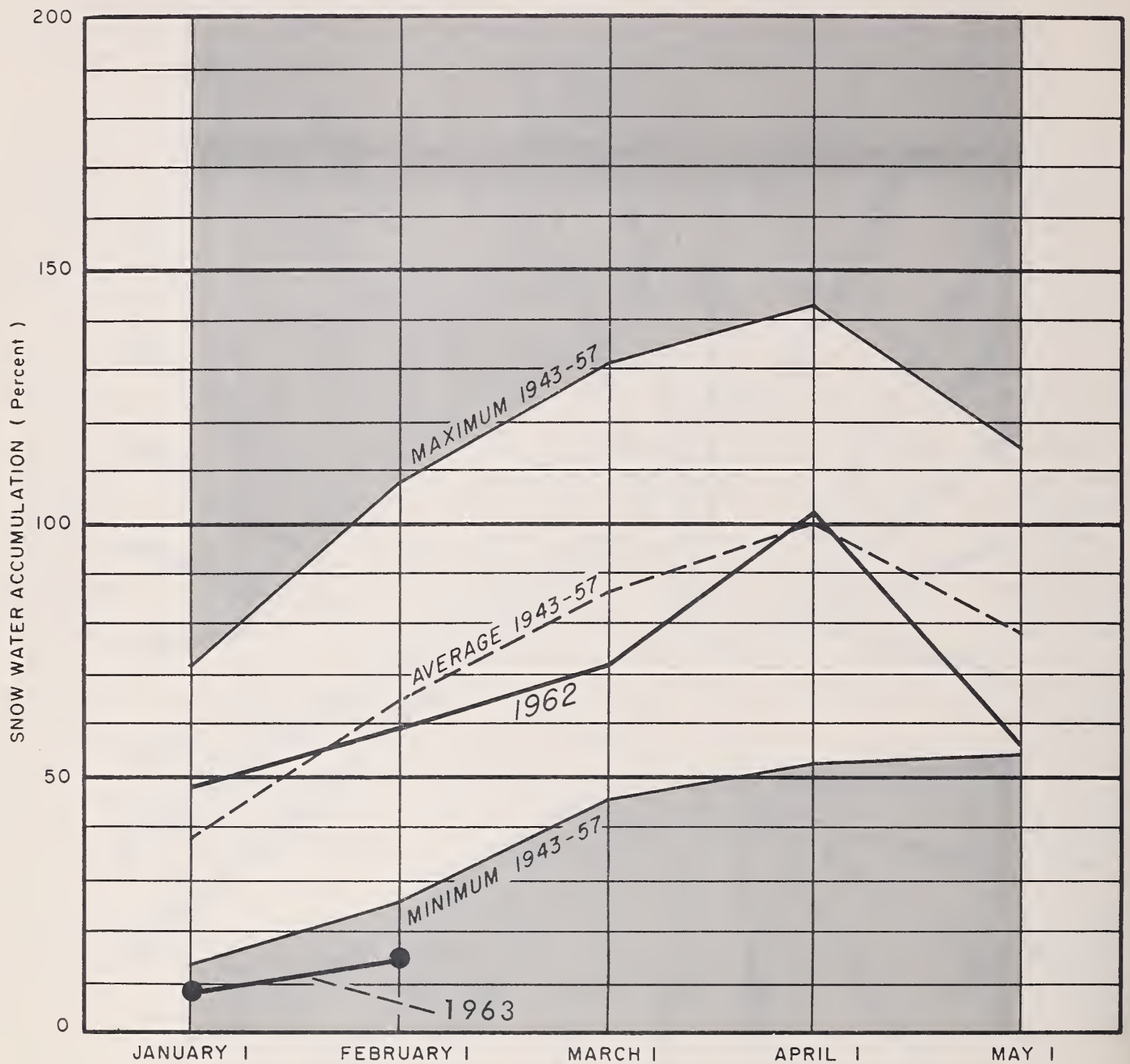
N.R. - No report.

** Capacity of reservoir greatly increased but current storage compared with previous average.

-- Short record - no average for comparison.

SNOW WATER ACCUMULATION in OREGON

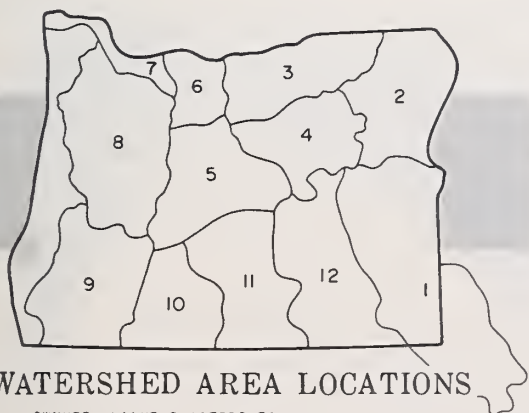
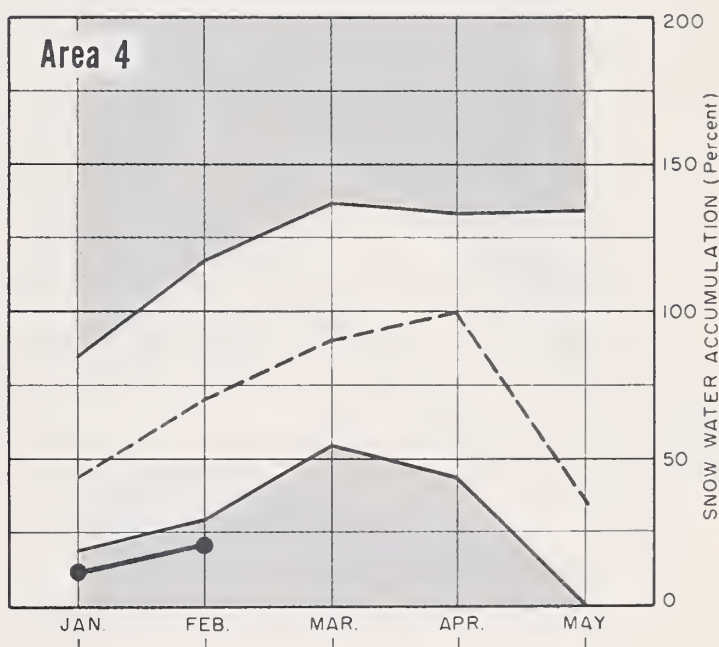
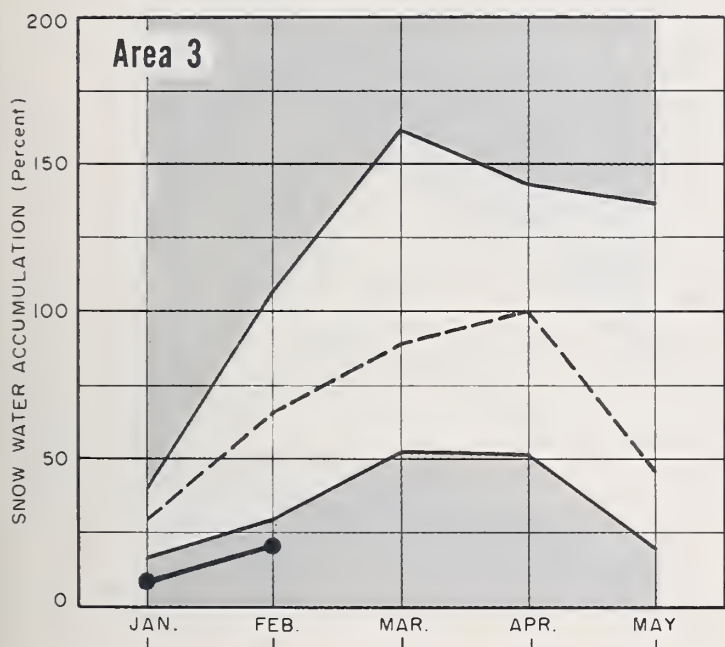
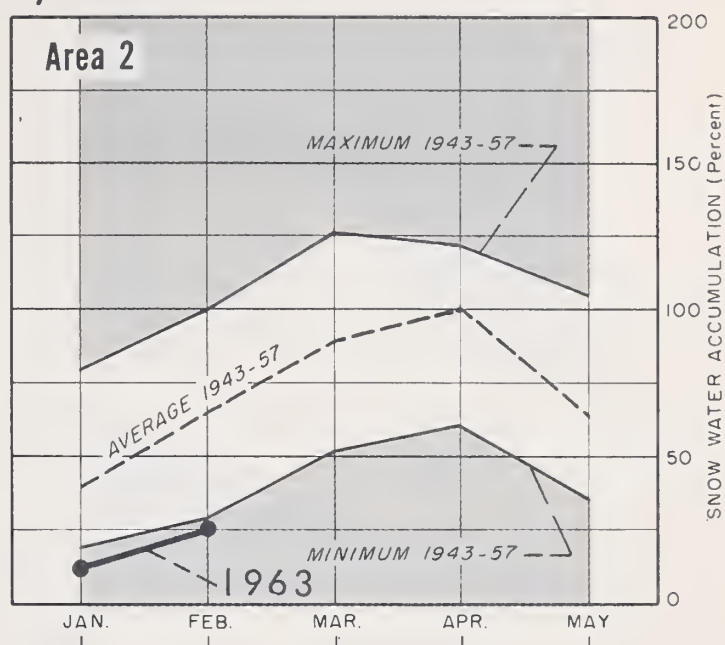
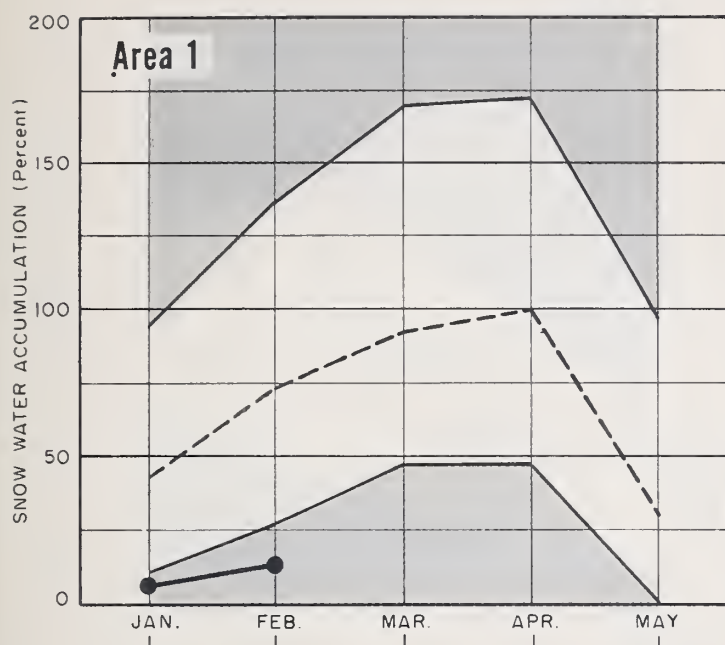
February 1, 1963



SNOW WATER ACCUMULATION in OREGON

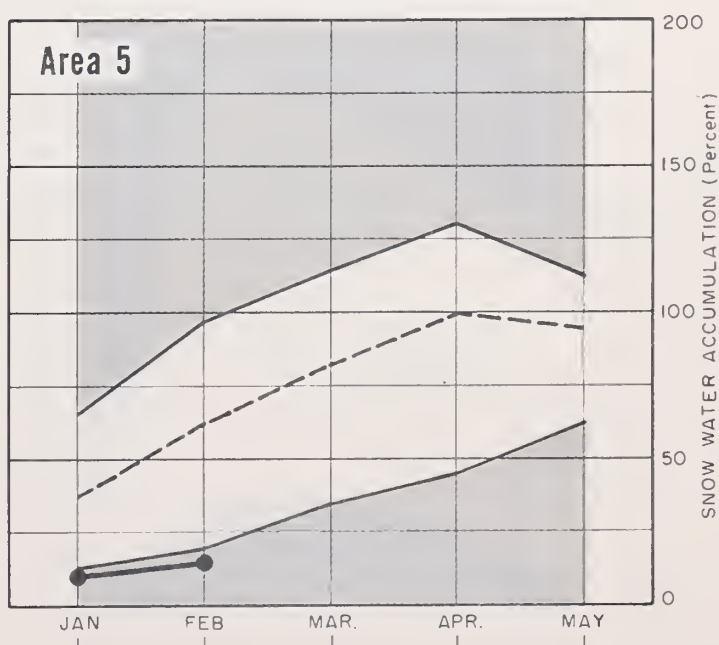
(Percent of average maximum accumulation)

February 1, 1963



WATERSHED AREA LOCATIONS

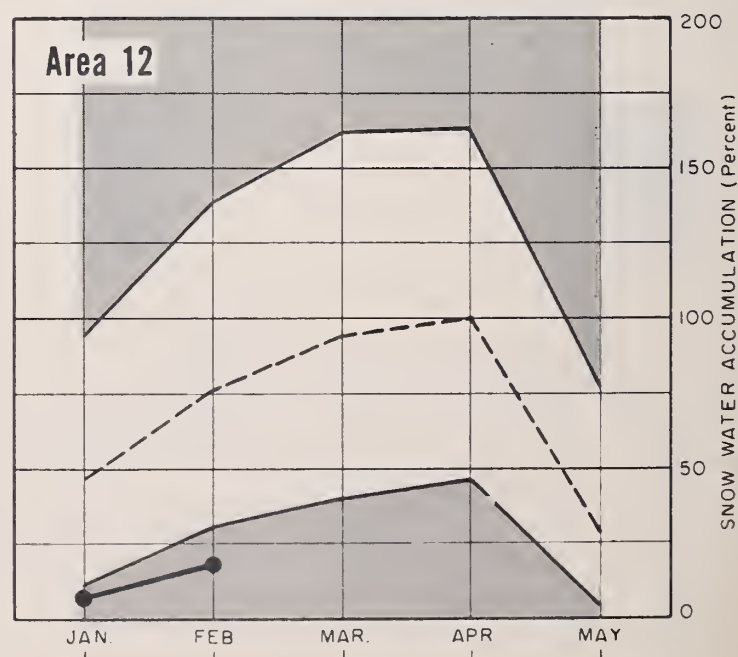
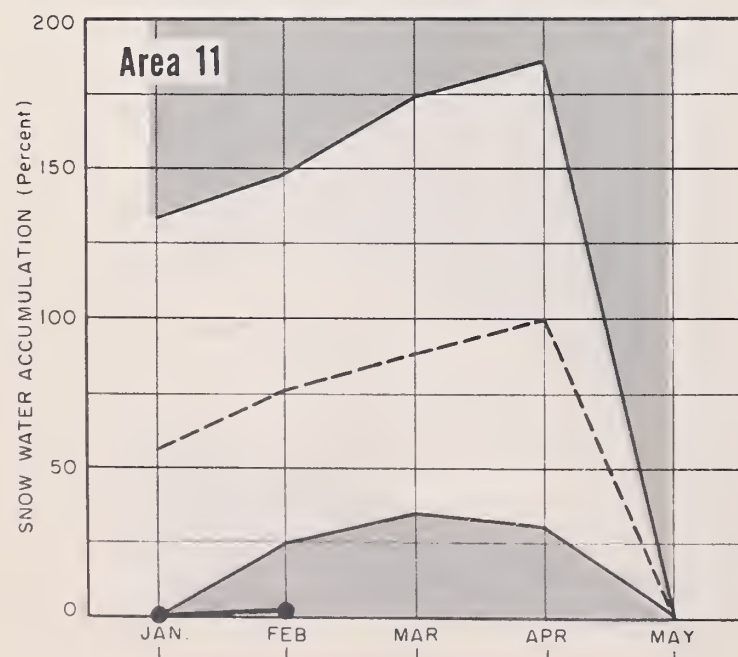
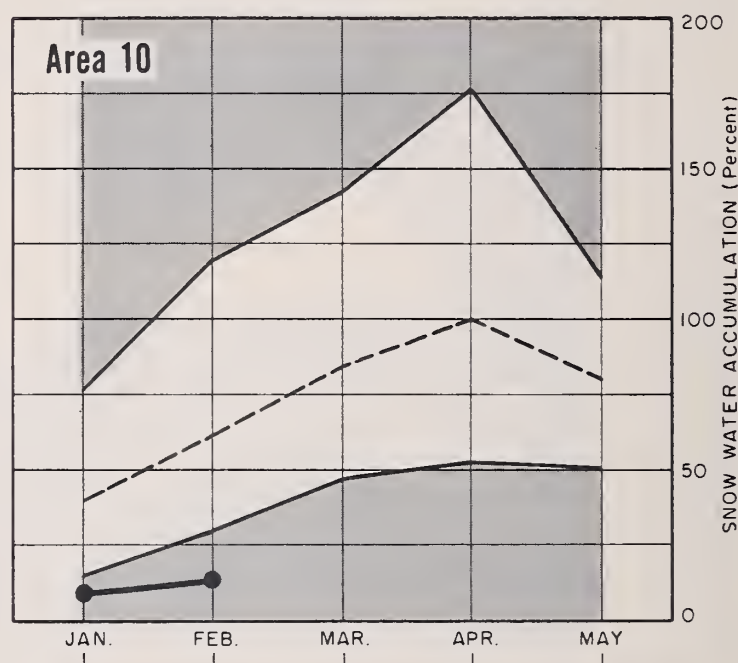
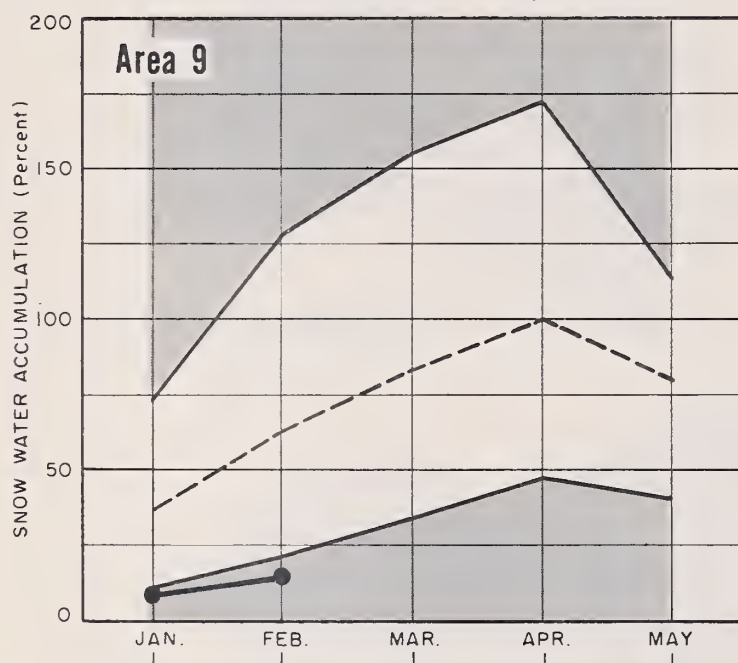
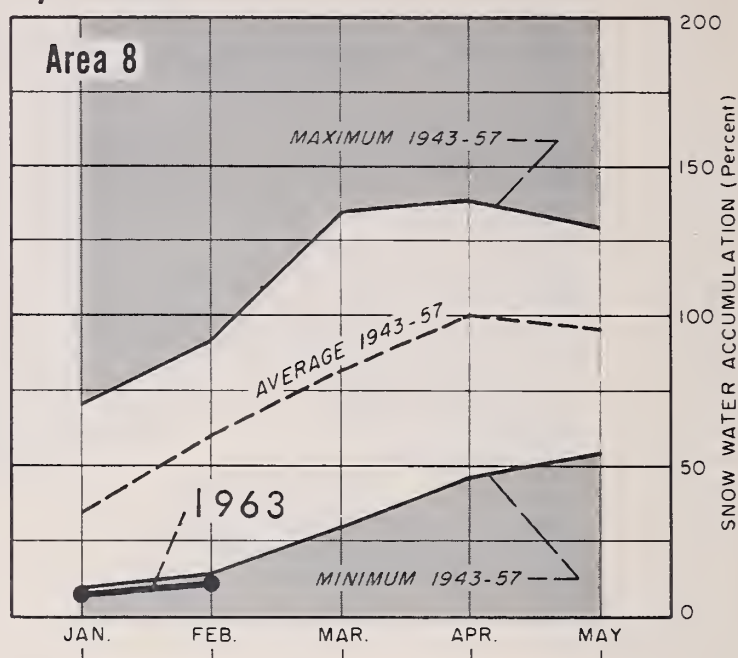
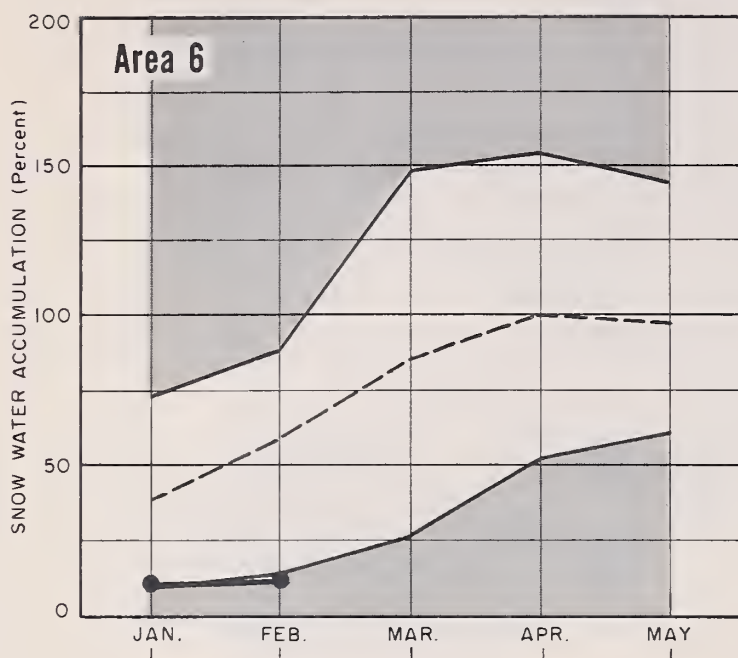
- AREA 1 - Owyhee, Malheur Watersheds
- AREA 2 - Burnt, Powder, Pine, Grande Ronde, Imnaha Watersheds
- AREA 3 - Umatilla, Walla Walla, Willow, Rock, Lower John Day Watersheds
- AREA 4 - Upper John Day Watersheds
- AREA 5 - Upper Deschutes, Crooked, Watersheds
- AREA 6 - Hood, Mile Creeks, Lower Deschutes Watersheds
- AREA 7 - Lower Columbia Watersheds
- AREA 8 - Willamette Watersheds
- AREA 9 - Rogue, Umpqua Watersheds
- AREA 10 - Klamath Watersheds
- AREA 11 - Lake County, Goose Lake Watersheds
- AREA 12 - Harney Basin Watersheds



SNOW WATER ACCUMULATION in OREGON

(Percent of average maximum accumulation)

February 1, 1963



MOUNTAIN SOIL MOISTURE in OREGON as percent of capacity

February 1, 1963



● Soil Moisture Station

*Moisture studies not yet developed in these areas.

NOTE: The soil moisture figures published herein are not comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

VALLEY PRECIPITATION in OREGON ^a

February 1, 1963



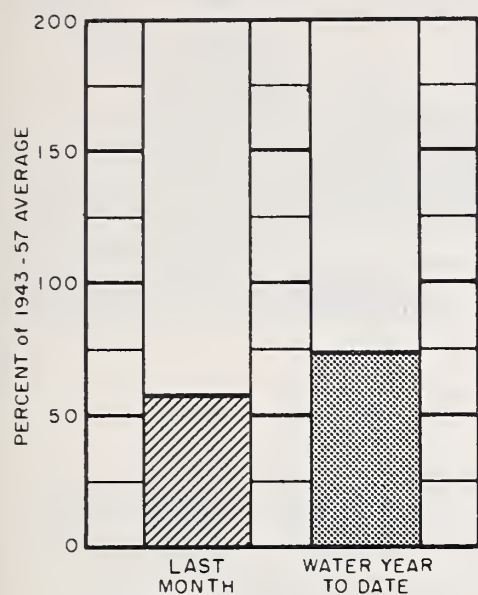
PRECIPITATION as PERCENT of the 1943 - 57 AVERAGE

STATION	LAST MONTH	WATER YEAR TO DATE ^b	STATION	LAST MONTH	WATER YEAR TO DATE ^b
BAKER APT.	132	144	LAKEVIEW	93	171
BEND	64	93	MEDFORD APT.	51	141
BURNS	96	135	NYSSA	49	110
ENTERPRISE	68	126	PENDLETON APT.	96	100
EUGENE APT	38	74	PORTLAND APT.	37	80
HEPPNER	67	101	ROSEBURG APT.	25	73
JOHN DAY	73	129	SALEM APT.	41	77
KLAMATH FALLS	51	106	THE DALLES	21	73

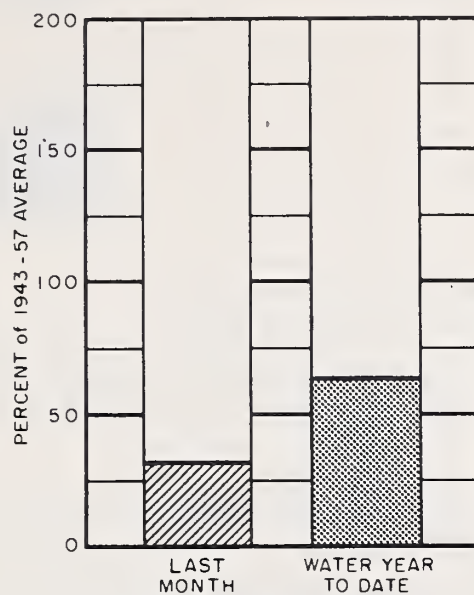
(a) Preliminary data furnished by the U.S. Weather Bureau. (b) Oct. 1 to date. (c) Report delayed.

CURRENT OREGON STREAMFLOW

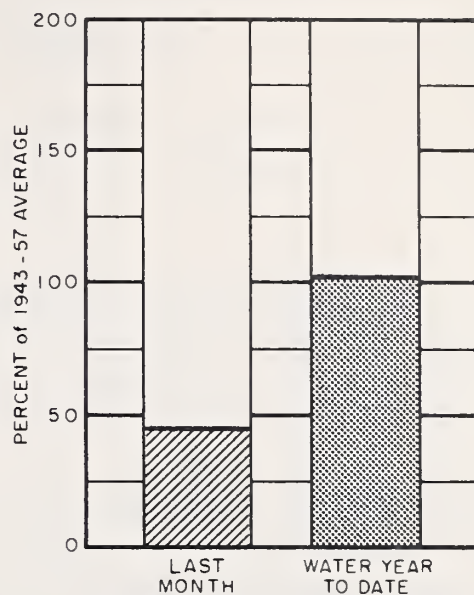
Provisional Data
February 1, 1963



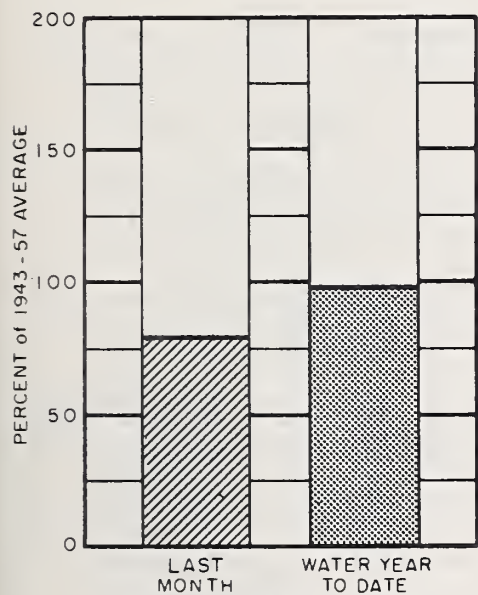
Owyhee Lake net inflow



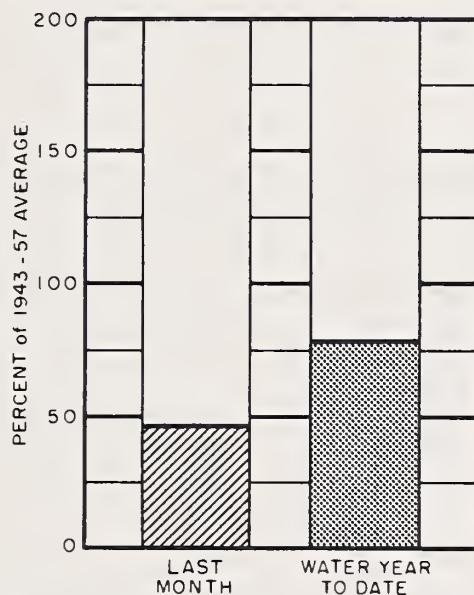
Umatilla near Umatilla



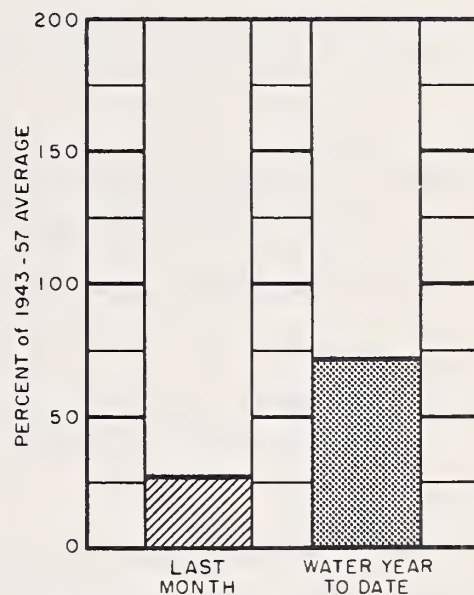
John Day at Service Creek



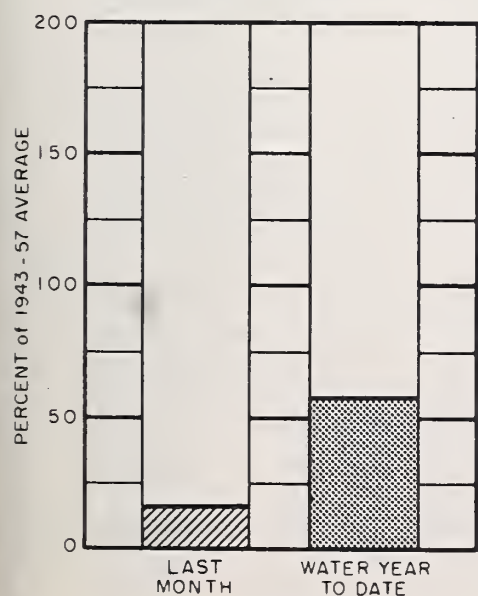
Deschutes at Moody



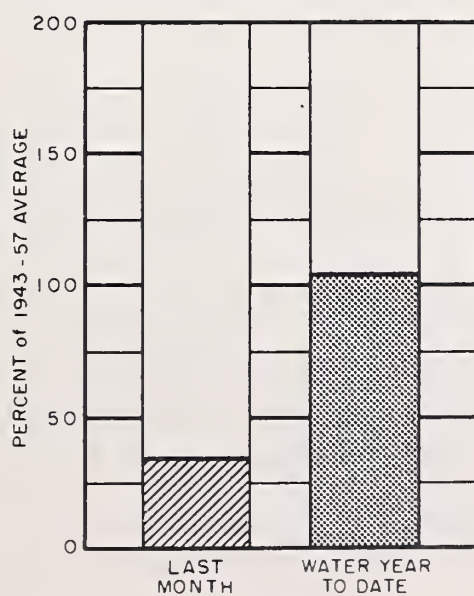
Hood and conduit near Hood River



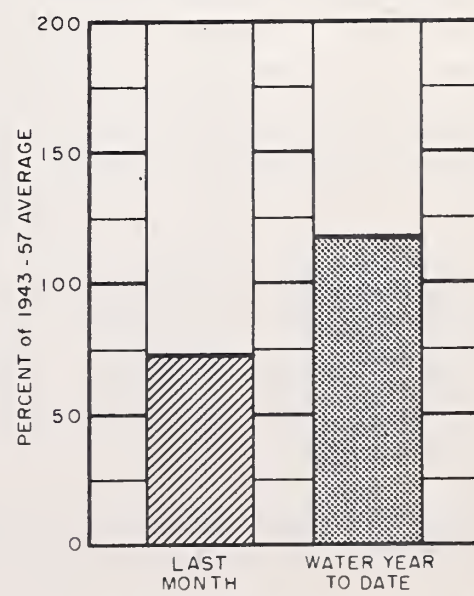
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow



WATER SUPPLY OUTLOOK OWYHEE, MALHEUR WATERSHEDS OREGON

as of
February 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK—The outlook for streamflow in Malheur County in the summer of 1963 is extremely poor because of record-low snow conditions. However, irrigation water supplies in most projects will probably be satisfactory, but only because of substantial supplies of reservoir water. Most lands without stored water will experience real shortages.

SNOW COVER — Surveys on 26 snow courses in the Owyhee watershed indicate a snow-pack less than one-fifth as heavy as last year on February 1st and only 9 percent of the 15 year average.

Ten measured snow courses on the Malheur watershed record one-fourth as much water in the snow as one year ago and only 31 percent of the average for February 1.

SOIL MOISTURE — The soil mantle on the Malheur watershed is now primed up to 86 percent of total capacity and on the Owyhee up to 77 percent.

RESERVOIR STORAGE — Owyhee Reservoir contained 226,100 acre feet on February 1 compared with 85,300 a.f. one year ago. Since then, 77,300 a.f. have entered the reservoir in the last 4 days.

Warm Springs Reservoir contained 27,000 acre feet on February 1 compared with 15,200 one year ago. Another 17,160 a.f. have been caught in the 3 days since February 1. Similarly, Agency Valley Reservoir contained 18,000 a.f. on February 1 compared with 13,100 a.f. one year ago. Inflow has been 9,000 a.f. in the first 3 days of February.

STREAMFLOW — Forecasted inflow to Owyhee Reservoir is 225,000 acre feet or 38 percent average for February through July. This runoff, if realized, plus present stored water should furnish about 450,000 a.f. to the project. Another 50,000 to 90,000 may possibly be pumped. This should be a satisfactory water supply.

Middle Fork Malheur River near Drewsey is forecast to flow 75,000 acre feet or 60 percent average for the February-July period. The North Fork at Beulah is forecast to flow 30,000 acre feet or 47 percent average for April-September. These forecasts, if realized, coupled with present stored water will furnish somewhat less than the average water supply for the Vale-Oregon and Warm Springs Irrigation Districts.

Runoff of smaller streams, such as Bully Creek, Cottonwood Creek, Succor Creek and Jordan Creek will be extremely short with possibly only enough water for one irrigation.

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair"
"Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Boulder Creek	Fair	Poor
Bully Creek	Poor	Poor
Cow Creek	Poor	Poor
Jordan Creek	Fair	Poor
Jordan Valley Irrig. Dist.	Average	Fair
McDermitt Creek	Poor	Poor
Oregon Canyon Creek	Poor	Poor
Owyhee Project	Average	Average
Succor Creek	Poor	Poor
Ten Mile Creek	Poor	Poor
Vale Oregon Irrig. Dist.	Average	Fair
Warm Springs Irrig. Dist.	Average	Fair
Willow Creek (reservoired)	Average	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Agency Valley	60.0	18.0	13.1	27.3
Antelope	55.0	N. R.	2.1	5.0
Owyhee	715.0	226.1	85.3	416.6
Warm Springs	191.0	27.0	15.2	64.8

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of February 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ^b
NO.	NAME				
2140	Malheur near Drewsey	35	April-Sept.	81	43
		75	Feb.-July	124	60
2175	Malheur, North Fork at Beulah ^d	30	April-Sept.	64	47
1825	Owyhee Reservoir net Inflow ^e	100	April-Sept.	430	23
		225	Feb.-July	594	38

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Bear Creek (Nev.)	7800	72	16.9	10-31-62	7.0 ⁱ	8.7 ⁱ	8.6 ⁱ
Big Bend (Nev.)	6700	48	16.7	1-28-63	14.7	15.1	14.9
Blue Mountain Springs	5900	42	16.9	1-28-63	11.5	8.3	7.5
Crane Prairie	5375	48	18.2	1-28-63	16.5	13.2	15.1
Folly Farm	4450	30	12.5	12-19-62	9.0 ⁱ	- -	- -
Jack Creek, Lower (Nev.)	6800	48	8.7	1-28-63	7.4	8.2	7.9
Jordan Valley	4250	48	19.3	12-19-62	14.9 ⁱ	14.3 ⁱ	- -
Mud Flat, (Ida.)	5500	48	12.8	2-2-63	6.2	5.6	- -
Rodeo Flat (Nev.)	6800	42	11.0	1-28-63	10.7	11.0	11.0
Stinking Water Summit	4800	48	21.9	1-22-63	21.0	20.7 ⁱ	21.2 ⁱ
Taylor Canyon (Nev.)	6200	48	15.1	1-28-63	11.8	11.6 ⁱ	11.8 ⁱ
Triangle (Ida.)	5150	48	16.2	2-2-63	11.1	13.9	- -

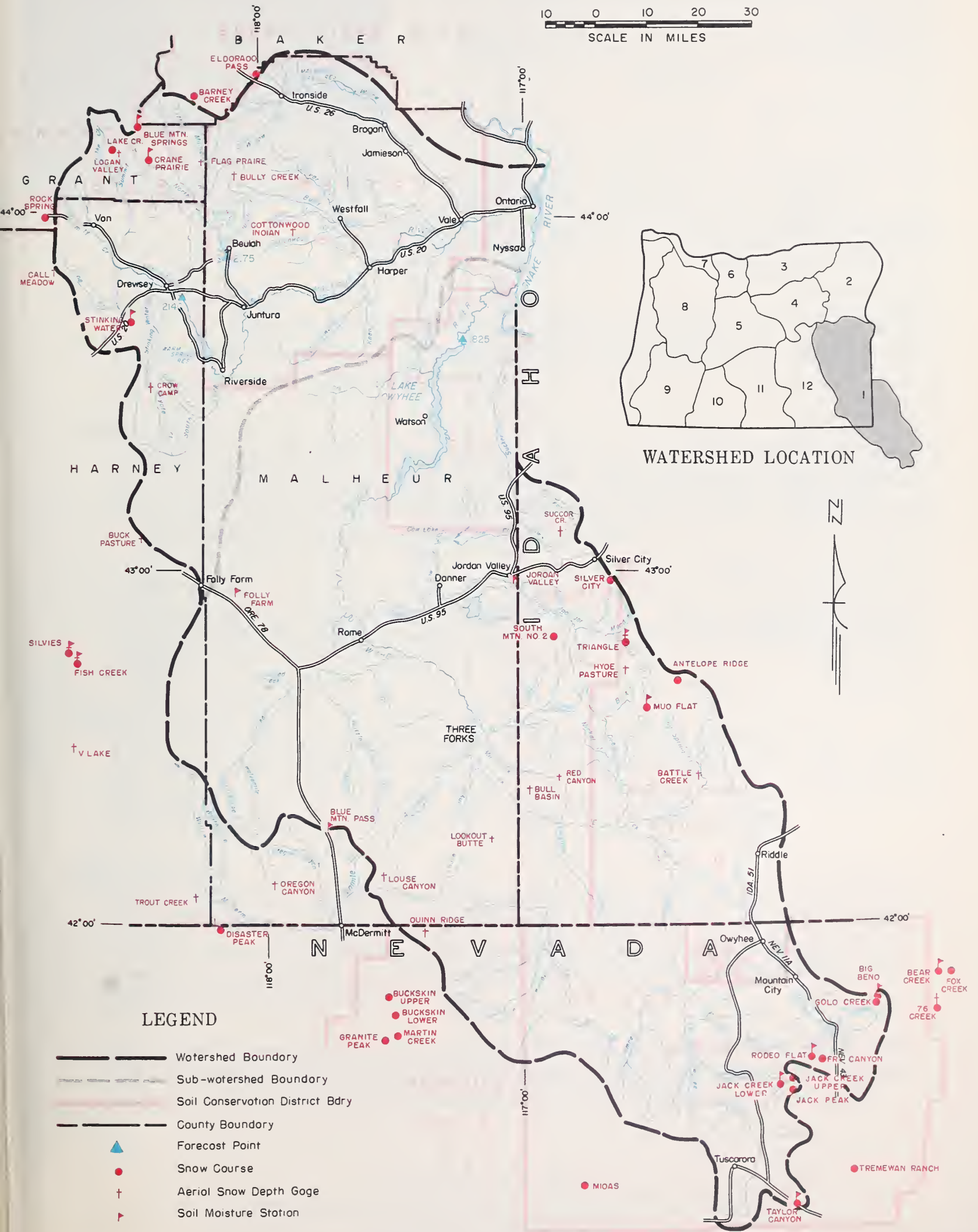
NOTE: The soil moisture figures published herein are not comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Antelope Ridge (Ida.)	5900	2/2	T	T	1.1	- -
Barney Creek	5950	c				
Battle Creek ^e (Ida.)	5700	1/23	1	0.2	1.9	- -
Bear Creek ^e (Nev.)	7800	f				
Big Bend (Nev.)	6700	1/28	T	T	5.0	6.9*
Blue Mountain Springs	5900	1/28	12	3.6	11.3	11.3
Buck Pasture ^e	5700	1/23	0	0.0	0.8	- -
Buckskin, Lower (Nev.)	6700	c				
Buckskin, Upper (Nev.)	7200	c				

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) USBR records of inflow. (h) Not surveyed. (i) Nearest current data. (j) Partly estimated. (*) 1943-57 Adjusted average.

OWYHEE, MALHEUR WATERSHEDS



SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Bull Basin ^e (Ida.)	5600	1/23	1	0.1	0.5	--
Bully Creek ^e	5300	1/23	0	0.0	2.4	--
Call Meadows ^e	5340	1/23	T	T	1.6	--
Cottonwood-Indian ^e	4320	1/23	0	0.0	2.4	--
Crane Prairie	5375	c				
Crow Camp ^e	5500	1/23	0	0.0	--	--
Disaster Peak (Nev.)	6500	c				
Eldorado Pass	4600	1/30	4	1.0	1.1	--
Fish Creek	7900	1/28	21	5.2	10.9	--
Flag Prairie	4750	1/23	0	0.0	2.2	--
Fox Creek (Nev.)	6800	c				
Fry Canyon (Nev.)	6700	1/28	T	T	3.2	6.5*
Gold Creek (Nev.)	6600	1/28	0	0.0	3.4	4.1*
Granite Peak (Nev.)	7800	f				
Hyde Pasture ^e (Ida.)	5800	1/23	1	0.2	1.9	--
Jack Creek, Lower (Nev.)	6800	1/28	T	T	2.9	--
Jack Creek, Upper (Nev.)	7250	1/28	T	T	8.1	--
Jack Peak (Nev.)	8420	1/29	17	3.2	--	--
Lake Creek	5120	1/30	11	2.0	4.7	--
Logan Valley ^e	5100	1/23	1	0.2	5.0	--
Lookout Butte ^e	5650	1/23	T	T	0.6	--
Louse Canyon ^e	6440	1/23	T	T	0.8	--
Martin Creek (Nev.)	6700	f				
Midas (Nev.)	7200	c				
Mud Flat ^e (Ida.)	5500	2/2	5	1.0	1.7	--
Oregon Canyon ^e	6950	1/23	T	T	3.9	--
Quinn Ridge ^e (Nev.)	6300	1/23	T	T	0.8	--
Red Canyon ^e (Ida.)	6500	1/23	1	0.2	2.6	--
Rock Spring	5100	1/29	7	0.9	2.5	4.7
Rodeo Flat (Nev.)	6800	1/28	T	T	3.0	6.4*
76 Creek (Nev.)	7100	f				
Silver City (Ida.)	6400	2/2	12	3.5	9.3	11.0*
Silvies	6900	1/28	2	0.4	4.2	--
South Mountain #2 (Ida.)	6340	1/28	4	0.5	5.5	8.5*
Stinking Water	4800	1/31	8	1.5	2.3	3.6*
Succor Creek (Ida.)	6100	1/23	0	0.0	--	--
Taylor Canyon (Nev.)	6200	1/28	T	T	2.5	--
Tremewan Ranch (Nev.)	5700	1/28	0	0.0	0.9	--
Triangle ^e (Ida.)	5150	2/2	0	0.0	1.1	--
Trout Creek	7800	1/23	8	2.0	3.4	--
"V" Lake ^e	6600	1/28	0	0.0	0.8	--



WATER SUPPLY OUTLOOK BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS OREGON

as of
February 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

Streamflow in Northeastern Oregon will be much below average during the coming spring and summer months unless the remaining winter storms produce more than the usual amount of snow in the mountains.

SNOW COVER

Water content of the mountain snowpack in this area is less than half (40 percent) of that expected in an average winter at this date. Measurements on 20 snow courses also indicate the snow is less than half of that available last year on February 1. At many stations the surveys are record low for this date.

SOIL MOISTURE

Watershed soils in the upper areas beneath the snow are all well reprimed. These soils now hold 83 percent of their total capacity whereas a year ago they held only 75 percent.

RESERVOIR STORAGE

Stored water supplies are excellent and well above average amounts. Wallowa Lake now has 22,300 acre feet compared with 13,200 a.f. last year at this date. Unity Reservoir already has 11,300 acre feet compared with 8,300 last year. Lands served from these sources will probably have a satisfactory irrigation season.

STREAMFLOW

Streamflow during the April-September period is expected to be 44 percent of the 1943-57 average on the Burnt River, 59 percent on the Powder, 50 percent on the Grande Ronde, 68 percent on Catherine Creek, 76 percent on the Imnaha, 79 percent on East Fork Wallowa, 69 percent on Hurricane, and 80 percent average on both the Lostine River and Bear Creek.

All irrigated areas without stored water supplies are expected to have late season water shortages. Some lands served from Burnt, Powder, and Grande Ronde Rivers and most areas served from smaller streams can expect severe water shortages.

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair"
"Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1963

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Alder Slope	Fair	Poor
Baker Valley	Fair	Poor
Big Creek	Fair	Poor
Clover Cr. (nr. No. Powder)	Fair	Poor
Cove	Fair	Poor
Durkee	Fair	Poor
Eagle Valley	Fair	Poor
Elgin	Fair	Poor
Enterprise-Joseph	Average	Fair
Hereford-Bridgeport	Average	Fair
Imnaha River	Fair	Poor
LaGrande-Island City	Fair	Poor
Lostine-Wallowa	Fair	Fair
No. Powder River-Wolf Cr.	Fair	Poor
Pine Valley	Fair	Poor
Powder River-Elk Creek	Fair	Poor
Summerville	Fair	Poor
Sumpter Valley	Fair	Poor
Union-Hot Lake	Fair	Poor
Unity	Fair	Poor

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Unity	25.2	11.3	8.3	7.2
Wallowa Lake	37.5	22.3	13.2	15.9

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of February 1, 1963

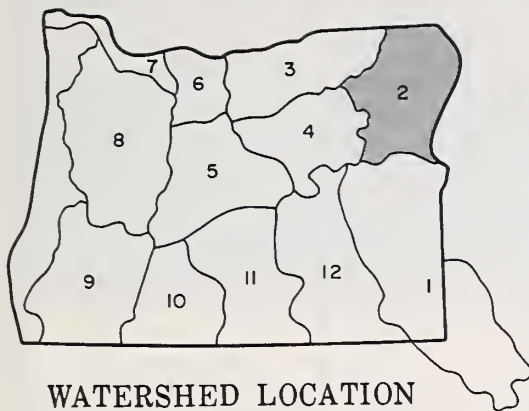
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ^b
NO.	NAME				
3305	Bear near Wallowa	59	April-Sept.	74	80
2730	Burnt near Hereford ^d	20	April-Sept.	45	44
		35	Feb.-June	55	64
3200	Catherine near Union	50	April-Sept.	73	68
3190	Grande Ronde at LaGrande	120	March-Sept.	245	49
		100	April-Sept.	202	50
3295	Hurricane near Joseph	34	April-Sept.	49	69
2920	Imnaha at Imnaha	240	April-Sept.	314	76
3300	Lostine near Lostine	106	April-Sept.	133	80
2755	Powder near Baker	39	April-Sept.	66	59
		38	April-July	65	58
3250	Wallowa, East Fork near Joseph ^d	9.5	April-Sept.	12.1	79
		7.6	April-July	9.7	78

SOIL MOISTURE

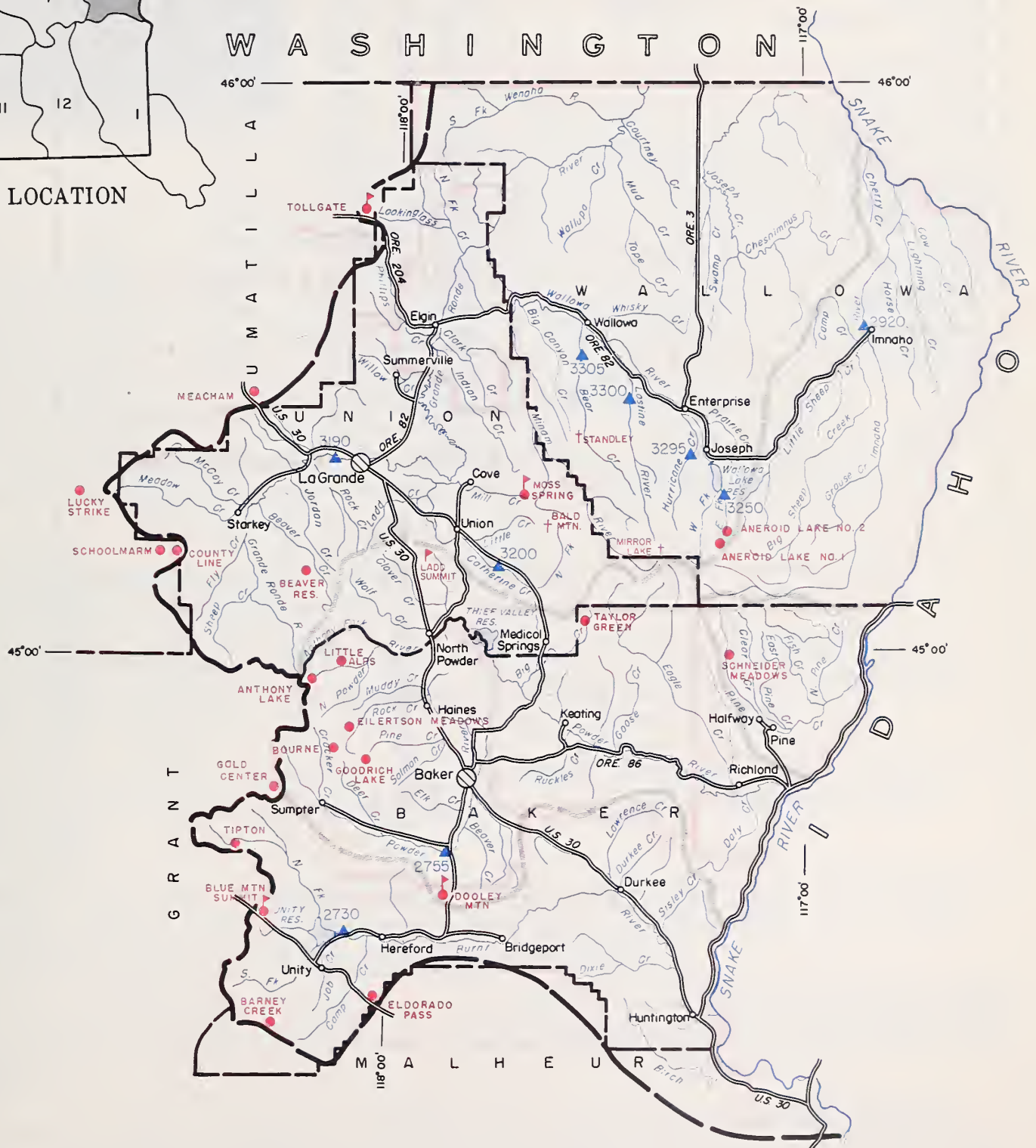
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Blue Mountain Summit	5100	36	16.8	1-30-63	11.7	7.0	9.6
Emigrant Springs	3925	48	22.3	1-29-63	18.9	18.2	19.0
Tollgate	5070	48	22.2	1-30-63	20.1	20.6	20.6
NOTE: The soil moisture figures published herein are <u>not</u> comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.							

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Water content partly estimated. (h) Not surveyed. (i) Nearest current data. (j) Partly estimated. (*) 1943-57 Adjusted averages.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS



10 0 10 20 30
SCALE IN MILES



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- Snow Course
- ▲ Soil Moisture Station
- † Aerial Snow Depth Gage

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Aneroid Lake No. 1	7480	1/27	51	15.3 ^g	27.1	24.4
Aneroid Lake No. 2	7000	1/26	42	12.6 ^g	22.4	19.2
Anthony Lake	7125	1/29	33	8.6	17.4	20.2*
Bald Mountain ^e	6700	<i>h</i>				
Barney Creek	5950	<i>c</i>				
Beaver Reservoir	5340	1/29	17	2.7	8.0	8.0
Big Sheep ^e	6200	1/28	30	9.0	- -	- -
Blue Mountain Summit	5098	1/30	14	2.5	6.4	6.9
Bourne	5800	1/28	10	2.6	10.2	12.2*
County Line	4800	1/31	9	1.2	4.8	5.0*
Dooley Mountain	5430	1/30	13	2.4	5.7	6.6
Eilertson Meadows	5400	1/29	14	2.4	6.9	8.7*
Eldorado Pass	4600	1/30	4	1.0	1.1	- -
Gold Center	5340	1/28	11	3.4	7.8	9.5*
Goodrich Lake	6775	<i>h</i>				
Little Alps	6200	1/29	19	3.4	10.5	- -
Lucky Strike	5050	1/28	16	2.9	9.0	9.1*
Meacham	4300	1/29	14	1.8	6.3	7.1
Mirror Lake ^e	8200	1/26	108	32.4	- -	- -
Moss Spring	5850	1/28	16	4.0	17.4	17.1
Schneider Meadows	5400	1/29	41	9.7	22.7	21.6
Schoolmarm	4775	1/31	9	1.0	4.4	4.4*
Standley ^e	7400	1/26	28	7.6	20.9	- -
Taylor Green	5740	<i>c</i>				
Tipton	5100	1/30	14	2.6	7.2	8.4*
Tollgate	5070	1/30	23	6.4	16.8	19.2
TV Ridge ^e	5670	1/26	4	1.1	- -	- -



WATER SUPPLY OUTLOOK UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS OREGON

as of
February 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK - Streamflow in Umatilla, Morrow and Gilliam counties during the 1963 irrigation season will be considerably below average largely due to an extremely poor snowpack which is close to the record low of 1934. In some cases stored water will be sufficient to complete a satisfactory irrigation season, but most lands, especially where no stored water is available, will experience real water shortages.

SNOW COVER - Water content of the mountain snowpack is near the record low. The snowpack now is 27 percent of the average and is only one-third of last year at this date.

SOIL MOISTURE - Watershed soils have been adequately re-primed and now hold up to 88 percent of their total capacity.

RESERVOIR STORAGE - Storage has been proceeding rapidly in Cold Springs Reservoir which now holds 32,700 acre feet compared with 28,400 a.f. available just one year ago. The latter figure is also the average February 1 storage.

McKay, which was fully drained last year, had caught 14,300 acre feet by February 1 this year, just 1000 acre feet more than last year. The average February storage is 33,700 acre feet.

STREAMFLOW - Streamflow on the Umatilla* has totaled only 63 percent average since October 1st and the forecast for the April-September flow at Pendleton is 70 percent of the 1943-57 average. Cold Springs Reservoir should fill.

Flow of the Walla Walla South Fork is forecast at 67 percent average for the six months, April-September. This flow will be nearly similar to the low flows of 1940, 1941, 1942, and 1944.

Flow of McKay Creek is forecast at 18,000 a.f. or 60 percent of average for April-September. The flow from February 1 through September 30 is forecast at 41,000 acre feet or 67 percent average. Adding the stored water, there will be only about 55,000 acre feet available from this source April through September.

Smaller streams will have extremely short flows with some lands receiving only one irrigation.

* Preliminary data furnished by U. S. Geological Survey, Portland, Oregon

Report prepared by
W. T. FROST AND BOB L. WHALEY
U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE • PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair"
"Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1963

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Birch Creek	Fair	Poor
Butter Creek	Fair	Poor
Dry Creek	Fair	Poor
Dugger Creek	Fair	Poor
Johnson Creek	Fair	Poor
McKay Creek	Fair	Poor
Mill Creek	Fair	Poor
Mud Creek	Fair	Poor
Pine Creek	Fair	Poor
Rhea Creek	Fair	Poor
Rock Creek	Fair	Poor
Umatilla R. (Cold Spgs. Res.)	Average	Fair
Umatilla River, Main	Fair	Poor
Umatilla River (McKay Res.)	Average	Fair
Walla Walla River, Little	Fair	Poor
Walla Walla River, Main	Fair	Poor
Walla Walla River, N. Fork	Fair	Poor
Walla Walla River, S. Fork	Fair	Poor
Willow Creek	Fair	Poor

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cold Springs	50.0	32.7	28.4	28.4
McKay	73.8	14.3	13.2	33.7

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of February 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT. OF AVERAGE ^c
NO.	NAME				
0320	Butter Creek near Pine City	c	April-Sept.	9.8	
0225	McKay near Pilot Rock	41	Feb.-Sept.	61	67
		18	April-Sept.	31	60
0200	Umatilla near Gibbon	70	April-Sept.	96	73
0210	Umatilla at Pendleton	131	April-Sept.	187	70
		126	April-July	182	69
0100	Walla Walla, South Fork near Milton	51	April-Sept.	76	67
		43	April-July	62	69

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Athena-Weston	1700	48	18.7	1-30-63	16.6	14.4	16.5
Battle Mountain Summit	4340	48	13.8	1-28-63	11.9	10.6	12.0
Emigrant Springs	3925	48	22.3	1-29-63	18.9	18.2	19.0
Tollgate	5070	48	22.2	1-30-63	20.1	20.6	20.6

NOTE: The soil moisture figures published herein are not comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Nearest current data. (h) Partly estimated. (*) 1943-57 adjusted average. (**) Average for 5 or more years in base period.

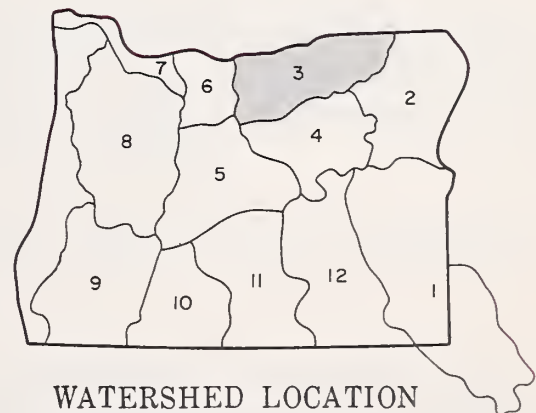
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

10 0 10 20 30
SCALE IN MILES



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- Snow Course
- ▶ Soil Moisture Station



Umatilla, Walla Walla, Willow, Rock, Lower John Day Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Arbuckle Mountain	5400	1/28	8	1.2	6.7	8.5
Battle Mountain Summit	4340	1/28	5	0.5	2.6	- -
Blue Mountain Camp	4300	1/30	12	1.9	- -	- -
Emigrant Springs	3925	1/29	13	1.4	2.5	6.1
Lucky Strike	5050	1/28	16	2.9	9.0	9.1*
Meacham	4300	1/29	14	1.8	6.3	7.1
Tollgate	5070	1/30	23	6.4	16.8	19.2
Weston Mountain	2700	1/30	7	0.6	- -	- -



WATER SUPPLY OUTLOOK UPPER JOHN DAY WATERSHEDS

OREGON

as of

February 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

Summer streamflow in the Upper John Day country in 1963 will be nearly as poor as in 1961 unless remaining winter storms drop an exceedingly heavy snow blanket over local watersheds in the next two months.

SNOW COVER

Water content of the snowpack as of now is nearly record low and only 27 percent of the February 1 average. At this date last year, the snowpack was nearly four times as heavy.

SOIL MOISTURE

Watershed soil moisture is very favorable to runoff with recharging of the soils now up to 75 percent of the total capacity compared with 59 percent a year ago. Some deep frost penetration remains in these soils.

STREAMFLOW

Flow of the John Day at Service Creek* has been only 45 percent of the average during January, 1963. Forecast for flow of the John Day at Prairie City for the period April through September is 54 percent of the 1943-57 average. The Middle Fork at Ritter should flow about 52 percent average for the same period.

These flows will provide water supplies similar to the "short" amounts available in 1961. Irrigation will be limited this year.

The John Day area, without stored water supplies, is completely dependent upon natural flow of streams. Natural flow depends almost directly upon mountain snowpack, plus summer rainfall. It is hoped that winter temperatures will become more nearly normal to turn the winter rainfall into snow for future runoff.

* Preliminary data furnished by U. S. Geological Survey, Portland, Oregon

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",
"Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.)

February 1, 1963

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Beech Creek	Fair	Poor
Beech Creek-Fox-Long Cr.	Fair	Poor
Bridge-Mountain Creeks	Fair	Poor
Camas Creek	Fair	Poor
Cherry Creek	Fair	Poor
Indian-Pine Creeks	Fair	Poor
John Day River, Main Fork	Fair	Fair
John Day River, Mid. Fork	Fair	Fair
John Day River, N. Fork	Fair	Fair
John Day River, So. Fork	Fair	Fair
Monument-Kimberly	Fair	Fair
Strawberry Creek	Fair	Poor

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943 - 57 AVERAGE

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of February 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943 - 57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE
NO.	NAME				
0385	John Day at Prairie City	29	April-Sept.	54	54
		34	March-July	59	58
0440	John Day, Middle Fork at Ritter	70	April-Sept.	135	52
		95	March-July	158	60
0375	Strawberry near Prairie City	6.0	April-Sept.	9.1	66

SOIL MOISTURE

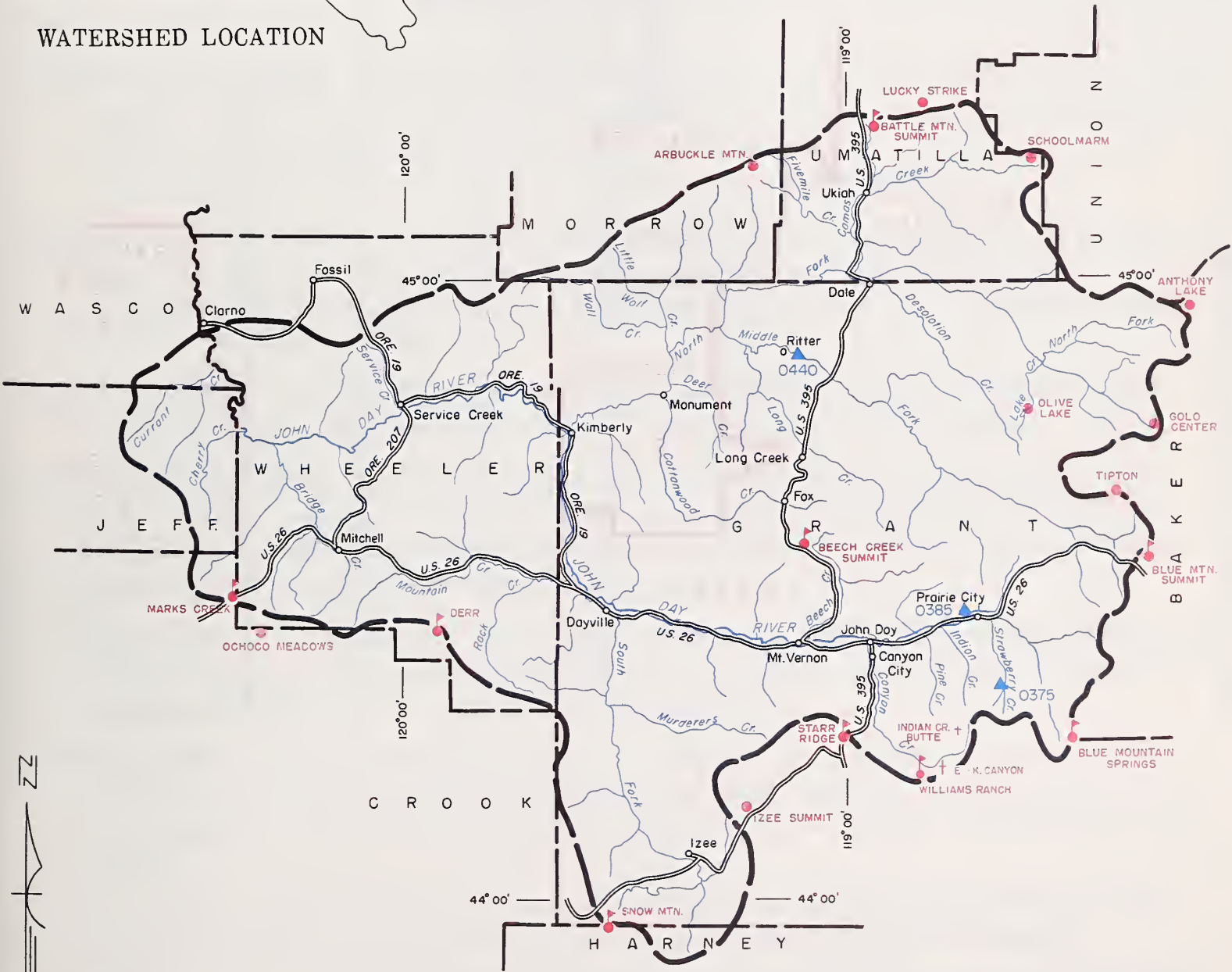
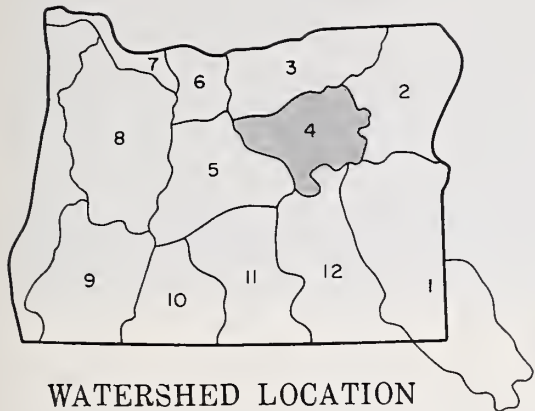
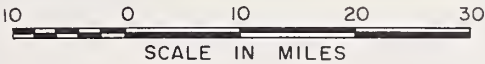
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Battle Mountain Summit	4340	48	16.8	1-28-63	11.9	10.6	12.0
Blue Mountain Springs	5900	42	16.9	1-28-63	11.5	8.3	7.5
Blue Mountain Summit	5100	36	16.8	1-30-63	11.7	7.0	9.6
Derr	5670	24		c			
Marks Creek	4540	36	14.1	1-28-63	10.2	10.5	10.0
Snow Mountain	6300	48	16.7	1-22-63	13.4	- -	- -
Starr Ridge	5150	36	10.6	1-28-63	10.2	7.9	8.1

NOTE: The soil moisture figures published herein are not comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

NOTE: The soil moisture figures published herein are not comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (h) Nearest current data. (i) Partly estimated. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

UPPER JOHN DAY WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station
- Aerial Snow Depth Gage

Upper John Day Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Anthony Lake	7125	1/29	33	8.6	17.4	20.2*
Arbuckle Mountain	5400	1/28	8	1.2	6.7	8.5
Battle Mountain Summit	4340	1/28	5	0.5	2.6	- -
Beech Creek Summit	4800	1/29	10	1.0	4.4	4.7*
Blue Mountain Spring	5900	1/28	12	3.6	11.3	11.3
Blue Mountain Summit	5098	1/30	14	2.5	6.4	6.9
Derr	5670	1/29	10	1.2	8.2	7.4
East Fork Canyon ^e	5700	c				
Gold Center	5340	1/28	11	3.4	7.8	9.5*
Indian Creek Butte ^e	6550	c				
Izee Summit	5293	1/28	7	1.8	6.5	6.8*
Lucky Strike	5050	1/28	16	2.9	9.0	9.1*
Marks Creek	4540	1/28	0	0.0	4.8	4.2
Ochoco Meadows	5200	1/29	5	0.6 ⁱ	9.1	8.1
Olive Lake	6000	1/28	17	3.2	13.8	13.3
Schoolmarm	4775	1/31	9	1.0	4.4	4.4*
Snow Mountain	6300	1/22	9	2.8	- -	- -
Starr Ridge	5150	1/28	5	1.3	5.1	5.0*
Tipton	5100	1/30	14	2.6	7.2	8.4*
Williams Ranch	4500	c				



WATER SUPPLY OUTLOOK UPPER DESCHUTES, CROOKED WATERSHEDS OREGON

as of
FEBRUARY 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK - Streamflow in the Deschutes-Crooked watersheds during the 1963 irrigation season will be much below average unless remaining winter storms produce well above average snowfall between now and the beginning of the snowmelt season. Water supplies will be "short" for all lands that have no stored water.

SNOW COVER - Water content of the mountain snowpack is only one-fifth of the February 1 average on the Deschutes, but only one-tenth average on the Crooked. Record-low measurements have been made on many snow courses and snow conditions resemble the "drought year" of 1934.

SOIL MOISTURE - Soils in the upper watersheds have been recharged adequately and measurements now show moisture is up to 77 percent of the total capacity.

RESERVOIR STORAGE - Ochoco Reservoir now holds 28,200 acre feet compared with 8,500 a.f. one year ago. This above average storage plus 92,300 a.f. in the new Prineville Reservoir will provide satisfactory water for the Ochoco Irrigation District in spite of exceptionally low streamflow to come.

Crane Prairie, Crescent Lake and Wickiup reservoirs all hold above average amounts of water and more than a year ago on February 1. These reservoirs now hold 39,400 acre feet, 55,800 a.f. and 151,100 a.f. respectively.

STREAMFLOW - Flow of the Deschutes River at Moody* has totaled 99 percent average since October 1, but because of extremely poor snow conditions, the forecast for the April-September flow at Benham Falls is set at 400,000 acre feet or 66 percent of the average.

Flow of the Little Deschutes is forecast at 40 percent average for the irrigation season, while inflow to Crane Prairie Reservoir is forecast at 52 percent average.

Tumalo Creek is forecast at 66 percent and Squaw Creek at 73 percent of the average for April-September.

Crooked River and Ochoco Creek should have flows about 25 and 22 percent average for April-September.

The above forecasts assume normal accumulation of snow during the balance of winter.

*Preliminary data furnished by U. S. Geological Survey, Portland, Oregon.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Arnold Irrigation District	Average	Fair
Bear Creek	Fair	Poor
Beaver Creek	Fair	Poor
Camp Creek	Fair	Poor
Central Ore. Irrig. Dist.	Average	Fair
Crooked River (abv. res.)	Fair	Poor
Deschutes River	Average	Fair
Hay-Trout Creeks	Fair	Poor
Lone Pine Irrig. Dist.	Average	Fair
Mill Creek	Fair	Poor
North Unit Irrig. Dist.	Average	Fair
Ochoco Creek (abv. res.)	Fair	Poor
Sisters Irrigation Dist.	Fair	Fair
Snow Creek Irrig. Dist.	Fair	Fair
Squaw Creek Irrig. Dist.	Fair	Fair
Swalley Ditch	Excellent	Excellent
Tumalo Project	Average	Fair
Walker Basin Irrig. Dist.	Fair	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Crane Prairie	55.3	39.4	36.9	41.2
Crescent Lake	117.2	55.8	39.5	46.1
Ochoco	47.5	28.2	8.5	25.0
Prineville	153.0	92.3	92.8	- -
Wickiup	182.0	151.1	144.2	122.4

Note: The U. S. Bureau of Reclamation indicates that dead storage in the amount of 5360 acre feet may be included in the current storage figure for Crescent Lake.

STREAMFLOW FORECASTS ^a(1,000 Ac. Ft.) as of February 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ^b
NO.	NAME				
0535	Crane Prairie Reservoir total Inflow	75	April-Sept.	143	52
0600	Crescent at Crescent Lake ^d	18	March-July	28	65
		17	April-Sept.	31	55
0795	Crooked near Post	109	Feb.-July	207	53
		32	April-Sept.	129	25
0645	Deschutes at Benham Falls ^d	400	April-Sept.	602	66
		265	April-July	404	66
0500	Deschutes below Snow Creek	36	April-Sept.	74	49
0630	Deschutes, Little near Lapine ^d	70	Feb.-July	129	54
		45	April-Sept.	113	40
0848	Ochoco Reservoir net Inflow	25	Feb.-June	51	49
		7.0	April-Sept.	32	22
0555	Odell near Crescent	20	April-Sept.	34	59
0750	Squaw near Sisters	40	April-Sept.	55	73
0730	Tumalo near Bend ^d	36	April-Sept.	55	66

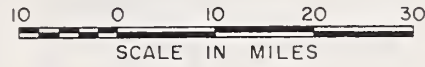
SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Marks Creek	4540	36	14.1	1-28-63	10.2	10.5	10.0
Snow Mountain	6300	48	16.7	1-22-63	13.4	- -	- -

NOTE: The soil moisture figures published herein are not comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

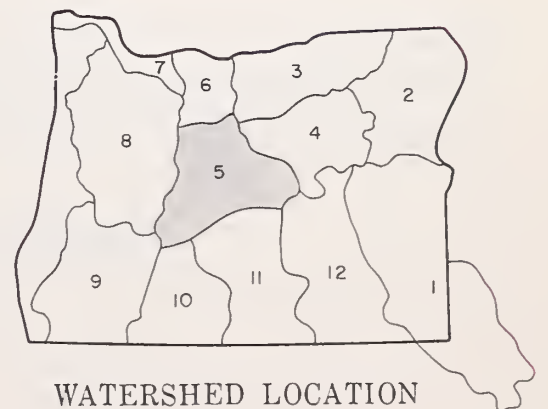
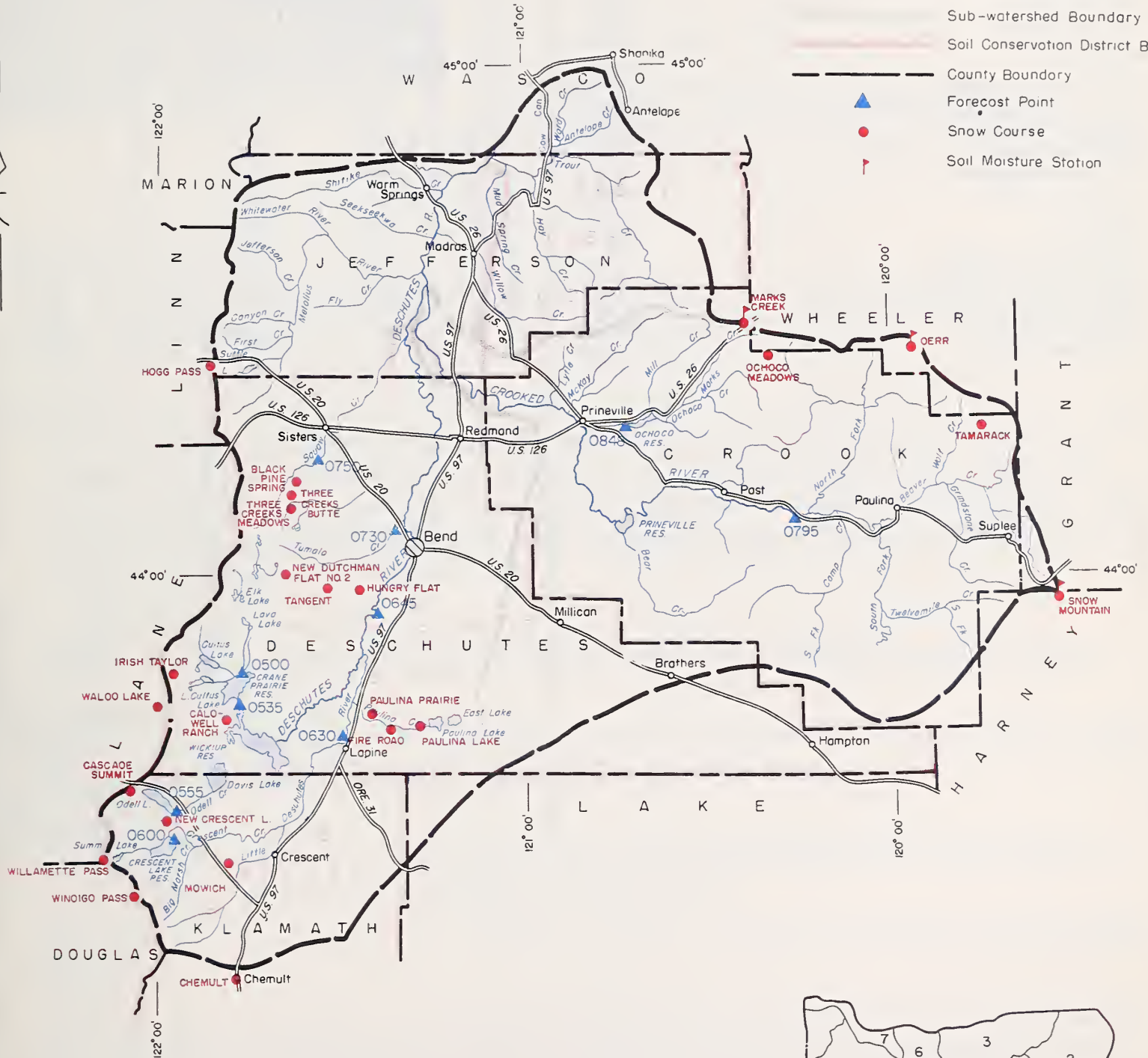
(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Partly estimated. (*) 1943-57 Adjusted average. (h) Nearest current data.

UPPER DESCHUTES, CROOKED WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- Snow Course
- ▲ Soil Moisture Station



Upper Deschutes, Crooked Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Black Pine Spring	4600	1/30	17	1.6	3.8	5.0*
Caldwell Ranch	4400	1/22	0	0.0	10.8	9.9*
Cascade Summit	4880	1/30	23	5.8	21.9	24.4
Chemult	4760	1/28	3	1.3	7.4	10.0
Derr	5670	1/29	10	1.2	8.2	7.4
Fire Road	5050	1/21	0	0.0	8.2	- -
Hogg Pass	4755	1/29	27	7.0	27.8	32.3
Hungry Flat	4400	1/29	13	1.6	6.6	7.3*
Irish-Taylor	5500	1/22	19	6.1	28.2	28.6*
Marks Creek	4540	1/28	0	0.0	4.8	4.2
Mowich	4700	1/23	0	0.0	3.8	- -
New Crescent Lake	4800	1/23	T	T	10.2	13.3*
New Dutchman Flat No. 2	6400	1/29	46	11.6	36.0	35.9*
Ochoco Meadows	5200	1/29	5	0.6 ^g	9.1	8.1
Paulina Lake	6330	1/21	14	5.4	17.4	- -
Paulina Prairie	4285	1/21	0	0.0	1.8	- -
Snow Mountain	6300	1/22	9	2.8	- -	- -
Tamarack	4800	1/29	6	0.5	4.6	- -
Tangent	5400	1/29	24	3.8	16.1	18.5*
Three Creeks Butte	5200	1/30	18	1.8	11.4	- -
Three Creeks Meadows	5600	1/30	20	3.2	16.4	14.7*
Waldo Lake	5500	1/22	12	3.2	23.5	22.6*
Willamette Pass	5600	1/23	25	9.1	30.1	29.3*
Windigo Pass	5800	1/24	26	8.9	32.0	30.4*

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

OREGON

as of
February 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1963 water supply outlook in the Hood River-Wasco County area remains only "fair" with poor late season flows expected on most streams. The snow pack is nearly a record low for February 1.

SNOW COVER

Water content of the snowpack is only 20 percent of average for February 1 and only 28 percent of last year at this time. It is very unlikely that remaining winter storms will "make up" the present shortage of snow cover. If normal conditions of temperature and precipitation occur between now and April 1, the snow pack will end up only 41 percent of the 15 year average (1943-57).

SOIL MOISTURE

Watershed soils are well primed and will favor runoff from snowmelt later this spring.

RESERVOIR STORAGE

Storage in Clear Lake is 3,500 acre feet. Last year at this time, it held 3,900 acre feet. Reports have not been received for other reservoirs of the area.

STREAMFLOW

The flow of Hood River* was only 48 percent of average (1943-57) for January and averages only 80 percent for the October-January period.

White River is forecasted to flow 110,000 acre feet or 62 percent for the April-September period.

The West Fork of Hood River and Hood River main stem near Hood River are expected to flow 120,000 and 250,000 acre feet respectively for this same April-September period.

The above forecasts are based on the assumption of normal snow accumulation between now and April 1.

* Preliminary data from U. S. Geological Survey, Portland, Oregon.

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair"
"Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Aldridge Ditch	Poor	Poor
Badger Creek	Poor	Poor
Dee Irrigation District	Fair	Poor
East Fork Irrig. Dist.	Fair	Poor
Farmers Irrig. Dist.	Fair	Poor
Hood River Irrig. Dist.	Fair	Poor
Juniper Flat	Fair	Poor
Middle Fork Irrig. Dist.	Fair	Poor
Mile Creeks	Poor	Poor
Mill Creek	Poor	Poor
Mount Hood Irrig. Dist.	Fair	Poor
Rock-Gate-Threemile Crs.	Poor	Poor
Tygh Creek	Poor	Poor
White River	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Clear Lake	- -	3.5	3.9	- -

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of February 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ^b
NO.	NAME				
1210	Hood near Hood River ^d	250	April-Sept.	365	68
		208	April-July	311	67
1185	Hood, West Fork near Dee	120	April-Sept.	174	69
		100	April-July	151	66
1015	White below Tygh Valley	110	April-Sept.	178	62
		97	April-July	161	60

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Brooks Meadows	4300	c				
Clear Creek Dam	3000	2/5	3	1.2	- -	- -
Clear Lake	3500	1/29	5	0.7	2.6	8.8*
Clear Lake (Experimental)	3500	1/29	8	1.0	7.6	- -
Cooper Spur	3490	1/31	14	2.0	5.0	- -
Greenpoint Reservoir	3400	1/20	T	T	5.8	14.3*
Knebal Springs	3850	c				
Lambert Point ^e	7000	f				
Parkdale	1770	1/31	10	1.6	0.0	- -
Phlox Point	5600	1/30	36	13.6	37.2	43.5
Pinnacle Ridge	3495	2/5	T	T	- -	- -
Red Hill	4400	1/20	11	4.2	21.0	34.7*
Still Creek	3700	1/29	15	3.5	11.8	19.3
Switchback	3255	2/5	9	3.2	- -	- -
Tilly Jane	6000	1/19	13	5.4	24.0	31.5*
Ulrich Ranch Junction	3350	c				
Upper Valley	2530	1/31	12	1.4	0.0	- -

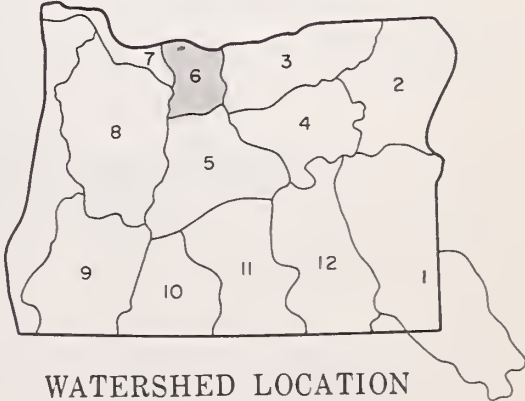
(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Partly estimated. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course



WATERSHED LOCATION



WATER SUPPLY OUTLOOK LOWER COLUMBIA WATERSHEDS OREGON

as of
February 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

Below average flow of the Columbia River can be expected during the 1963 snowmelt season. Climatic conditions during the fall months were such that much of the precipitation came as rainfall with very little accumulation of snow at mountain elevations. This trend continued through January along the western edge of the basin in the Oregon and Washington Cascades. However, below average temperatures prevailed in the Upper Columbia, the Clark Fork, and the Snake.

SNOW COVER

Snowpack in mountain areas over practically all the basin is deficient although some increase in respect to average from January 1 was measured along the Continental Divide. As of February 1, snow water content was near average in the Big Bend area of Canada in the northern section of the basin, and 60 to 80 percent of average on the tributaries near the Continental Divide. The Cascades of Washington and the entire state of Oregon have an extremely short snowpack--at a minimum of record. Rainfall that has occurred the past few days in this area has tended to reduce the snowpack. Streamflow is high.

SOIL MOISTURE

Mountain soils are generally wet except for the main Snake River drainage. Reservoir storage is near average except for some irrigation reservoirs in eastern Oregon.

STREAMFLOW AND OUTLOOK

Snowfall in the mountains for the remaining winter and spring months will have to be far in excess of average to produce an average flow in the Lower Columbia River during the snowmelt period. The flow of the Columbia River at The Dalles* has been generally above normal since October with a slight deficiency in January.

Month	Percent of Average Discharge (1943-57)			
October	111 adjusted for storage			
November	116	"	"	"
December	124	"	"	"
January	93	"	"	"

* From preliminary data furnished by U. S. Geological Survey, Portland, Oregon

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.)

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ^b
NO.	NAME				
1057	Columbia at The Dalles	84,500 56,000	April-Sept. April-June	106,100 72,000	80 78

HISTORICAL DATA (Columbia River at The Dalles)

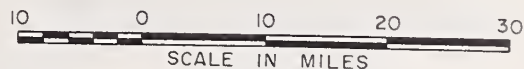
YEAR	STREAMFLOW ^c (1,000 A.F.)			PEAK ^e (1,000 c.f.s.)	DATE
	APR. — SEPT.	APR. — JUNE	MAY — JUNE		
1943	115,000	75,300	52,400	541	June 21
1944	61,900	39,200	32,100	326	June 19
1945	81,600	54,600	47,300	505	June 8
1946	108,100	75,400	59,600	581	May 30
1947	100,300	70,000	56,800	536	May 11
1948	130,500	94,600	81,900	999	May 31
1949	95,700	71,400	56,000	622	May 18
1950	120,400	74,700	61,200	744	June 25
1951	113,000	75,600	59,100	597	May 26
1952	107,700	77,500	57,300	557	May 28
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1943-57 Avg.	106,100	72,000	58,100	616	
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23
1960	97,000	64,000	48,000	442	June 6

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)^f

VANCOUVER ^g GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s.)	DRAINAGE DISTRICT PUMPHOUSE						
		SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES						
		118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	940	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	890	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	840	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	790	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	750	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	700	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	660	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	630	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	590	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	560	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20	530	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	510	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	480	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	450	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	430	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Observed flow corrected for storage in F.D.R., Kootenai, Pend Oreille, Flathead, Hungry Horse, Lake Chelan, Coeur d'Alene and Grand Coulee Equalizer. (d) Not scheduled. (e) Observed peak. (f) Based on Corps of Engineers automatic water stage recorder data. (g) Vancouver Weather Bureau gage zero is 1.82' above M.S.L.. All other readings are in feet above M.S.L.

LOWER COLUMBIA WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- River Miles
- Snow Course



"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK WILLAMETTE WATERSHEDS OREGON

as of
February 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1963 water supply outlook in Willamette Valley during the April-September period is generally "fair" with "poor" late season conditions expected in many streams. Snow-pack is nearly record low for February 1.

SNOW COVER

Water content of the mountain snowpack is 16 percent of the average (1943-57) and only one-fifth of the snow at this date last year.

It is highly unlikely that remaining winter storms will "make up" the present shortage of snow cover. In fact, the shortage is so great that normal snowfall occurring between now and April 1 will increase the total snowpack to only 50 percent of average.

SOIL MOISTURE

Watersheds soils have been well primed by rainfall and will favor runoff from snowmelt at the time of runoff.

RESERVOIR STORAGE

The six major reservoirs in the Willamette Basin are multi-purpose and are operated by the Corps of Army Engineers according to a pre-arranged plan. These reservoirs will begin to fill as spring runoff commences.

STREAMFLOW

Streamflow during January was only 29 percent* of the average on the Middle Fork of the Willamette. The April-September flow is forecast to be 68 percent of the 1943-57 average. The North Santiam should flow 62 percent for the same period, The McKenzie 67 percent and the Clackamas 70 percent of average.

Forecast for the Willamette at Salem is for a runoff of 3,800,000 acre feet or 70 percent average April through September.

The above forecasts are made on the assumption that snowfall between now and April 1 will be normal.

* Preliminary data from U. S. Geological Survey, Portland, Oregon.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair", "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Calapooya	Fair	Poor
Clackamas	Average	Fair
McKenzie	Average	Fair
Molalla	Fair	Poor
Santiam, North	Average	Fair
Santiam, South	Average	Fair
Willamette, Coast Fork	Fair	Fair
Willamette, Middle Fork	Average	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cottage Grove	30.8*	0.7	0.3	0.5
Detroit	299.9*	0.3	3.4	27.9
Dorena	70.5*	3.1	1.9	2.6
Fern Ridge	94.2*	5.0	0.9	19.3
Hills Creek	249.0*	1.2	2.7	- -
Lookout Point	337.2*	1.6	0.0	- -
*Multiple purpose reservoir--space reserved primarily for flood runoff.				

STREAMFLOW FORECASTS^a (1,000 Ac. Ft.) as of February 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ^b
NO.	NAME				
2080	Clackamas at Big Bottom	125	April-Sept.	184	68
		100	April-July	150	67
2100	Clackamas at Estacada	617	April-Sept.	879	70
		540	April-July	763	71
2095	Clackamas above Three Lynx	464	April-Sept.	674	69
		390	April-July	578	67
1590	McKenzie at McKenzie Bridge	440	April-Sept.	640	69
		325	April-July	488	67
1625	McKenzie near Vida	906	April-Sept.	1362	67
		740	April-July	1120	66
2090	Oak Grove Fork above Power Intake	140	April-Sept.	198	71
		110	April-July	156	71
1545	Row near Dorena	80	April-Sept.	114	70
		76	April-July	109	70
1830	Santiam, North at Mehama ^d	600	April-Sept.	968	62
		528	April-July	866	61
1875	Santiam, South at Waterloo	418	April-Sept.	652	64
		382	April-July	616	62
1480	Willamette, Mid. Fk. Blw. N. Fk. nr. Oakridge	616	April-Sept.	909	68
		547	April-July	804	68
1910	Willamette at Salem ^d	3800	April-Sept.	5461	70
		3334	April-July	4942	67

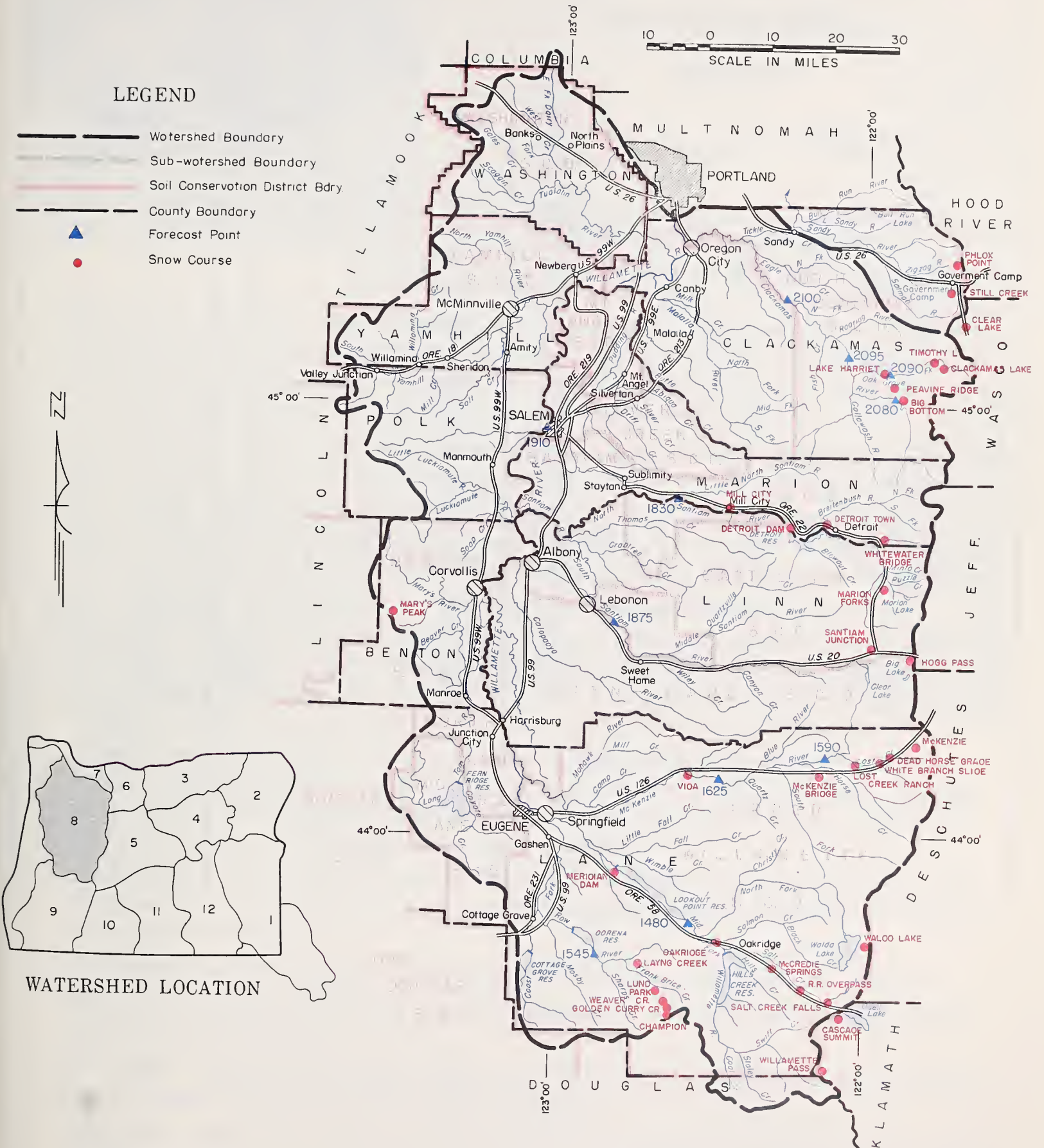
(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

WILLAMETTE WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- Snow Course

10 0 10 20 30
SCALE IN MILES



WATERSHED LOCATION

Willamette Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Big Bottom	2118	2/1	3	1.2	0.8	5.9*
Cascade Summit	4880	1/30	23	5.8	21.9	24.4
Champion	4500	1/31	7	2.4	14.4	20.1
Clackamas Lake	3400	c				
Clear Lake	3500	1/29	5	0.7	2.6	8.8*
Clear Lake (Experimental)	3500	1/29	8	1.0	7.6	- -
Dead Horse Grade	3800	1/25	T	T	13.4	16.0*
Detroit Town	1610	1/29	7	0.5	0.0	3.1*
Detroit Dam	1580	1/29	9	0.8	0.0	1.2*
Golden Curry Creek	3136	1/31	T	T	1.4	6.8*
Hogg Pass	4755	1/29	27	7.0	27.8	32.3
Lake Harriet	2045	2/1	3	1.1	T	3.8*
Layng Creek	1200	1/31	0	0.0	0.0	T*
Lost Creek Ranch	1956	1/25	0	0.0	T	5.3*
Lund Park	1740	1/31	0	0.0	1.2	1.9*
Marion Forks	2730	1/29	13	0.9	8.3	11.7
Marys Peak	3620	2/4	0	0.0	1.0	8.7*
McCredie Springs	2120	1/30	1	0.1	0.0	1.6*
McKenzie	4800	1/25	15	5.2	33.3	33.4*
McKenzie Bridge	1372	1/25	0	0.0	0.0	2.1*
Meridian Dam	750	1/30	0	0.0	0.0	0.0*
Mill City	826	1/29	4	0.5	0.0	- -
Oakridge	1310	1/30	1	0.1	0.0	T*
Peavine Ridge	3500	2/1	7	2.1	9.0	13.9
Phlox Point	5600	1/30	36	13.6	37.2	43.5
Railroad Overpass	2750	1/30	6	0.6	0.0	4.2*
Salt Creek Falls	4000	1/30	9	0.7	13.0	13.1*
Santiam Junction	3990	1/29	15	1.1	16.7	19.7
Still Creek	3700	1/29	15	3.5	11.8	19.3
Timothy Lake	3295	2/1	7	1.7	8.1	- -
Vida	800	1/25	0	0.0	0.0	T*
Waldo Lake	5500	1/22	12	3.2	23.5	22.6*
Weaver Creek	2440	1/31	0	0.0	1.2	2.1*
White Branch Slide	2800	1/25	0	0.0	T	6.8*
Whitewater Bridge	2175	1/29	10	0.8	2.5	6.3*
Willamette Pass	5600	1/23	25	9.1	30.1	29.3*

"The Conservation of Water begins with the Snow Survey"



WATER SUPPLY OUTLOOK ROGUE, UMPQUA, WATERSHEDS OREGON

as of
February 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK - The outlook for spring and summer water supplies in 1963 in the Rogue-Umpqua area is only "fair" due largely to a very "short" snowpack, which is the record low since the winter of 1940. Irrigated lands served from the combined reservoirs of the Jackson County area should have satisfactory water supplies.

SNOW COVER - Water content of the mountain snowpack is only 21 percent of the February 1 average and just one-fifth of the amount of snow on the watersheds one year ago. It is highly unlikely that remaining winter storms will "make up" the present shortage of snow cover. In fact, the shortage is so great that normal snowfall occurring between now and April 1 will increase the total snowpack to only 50 percent of the average.

SOIL MOISTURE - Watershed soils have been well recharged by heavy fall rains.

RESERVOIR STORAGE - Stored water supplies for the Talent Irrigation District, held in Emigrant, Hyatt and Howard Prairie reservoirs now total about 77,000 acre feet compared with 47,000 a.f. one year ago this date. This is a very adequate supply for the irrigation season.

Medford and Rogue River Valley Irrigation Districts store water in Fish and Fourmile Lakes, where the supply now totals 10,700 a.f. compared with 7,800 a.f. one year ago. This is not an adequate supply but the districts can obtain needed water from the Talent District to complete a satisfactory season.

STREAMFLOW - Flow of Rogue River at Raygold* has totaled 104 percent average since October 1 but forecasted flow for the April-September period is 675,000 acre feet or 67 percent of average.

Canal alternation is probably by September 1 for Grants Pass Irrigation District.

Both the Applegate and Illinois Rivers are forecast at 65 percent of average for the April-September period.

The North Umpqua below Lemolo Reservoir is forecast at 121,000 acre feet or 65 percent average for the six months, April-September.

The above forecasts are made on the assumption that snowfall between now and April 1 will be normal.

* Preliminary data from Pacific Power & Light Co., Medford, Oregon and U. S. Geological Survey, Portland, Oregon.

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair"
"Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Althouse Creek	Average	Fair
Applegate River, Big	Average	Fair
Applegate River, Little	Average	Fair
Ashland Creek	Average	Fair
Butte Creek, Little	Average	Fair
Butte Creek, Big	Average	Fair
Cow Creek	Fair	Poor
Deer Creek	Fair	Poor
Elk Creek	Average	Fair
Emigrant Cr. (above Res.)	Average	Fair
Evans Creek	Fair	Poor
Gold Hill Irrigation Dist.	Average	Fair
Grants Pass Irrig. Dist.	Average	Fair
Grave Creek	Fair	Poor
Illinois River, East Fork	Average	Fair
Illinois River, West Fork	Average	Fair
Jump-off-Joe Creek	Fair	Poor
Neil Creek	Average	Fair
Red Blanket Creek	Average	Fair
Rogue River	Average	Fair
Sucker Creek	Fair	Poor
Table Rock Irrig. Dist.	Average	Fair
Thompson Creek	Fair	Poor
Wagner Creek	Fair	Poor
Williams Creek	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1963

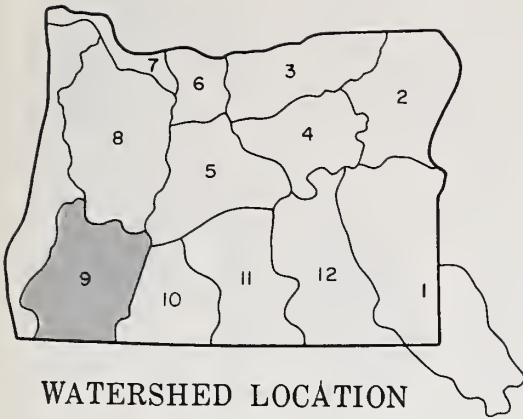
RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Emigrant Gap	39.0	24.7	21.0	5.2
Fish Lake	7.8	4.7	4.2	5.0
Fourmile Lake	16.1	6.0 ^j	3.6	8.3
Howard Prairie	60.0	40.1	19.1	- -
Hyatt Prairie	16.1	12.6	7.2	6.1

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of February 1, 1963

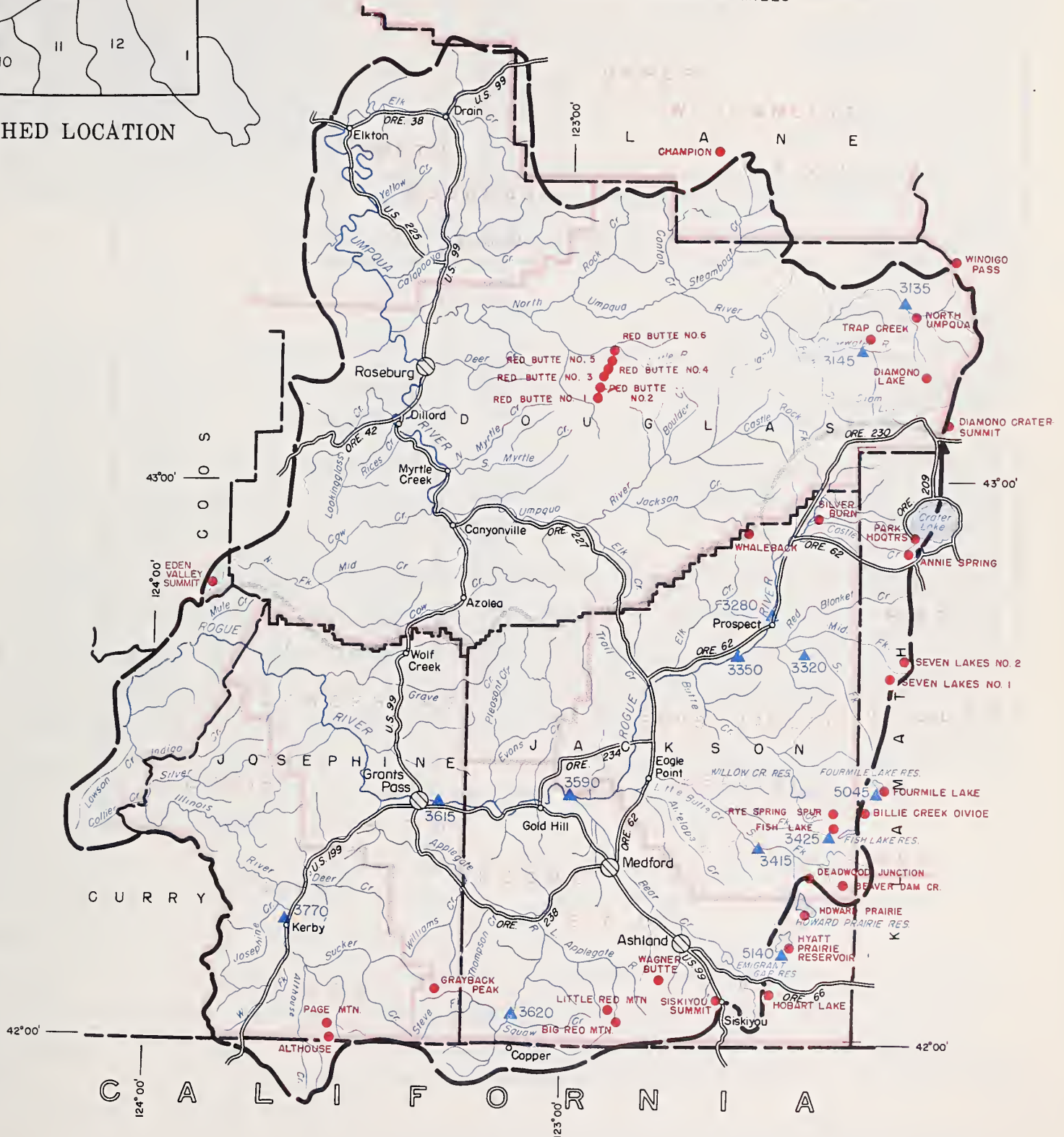
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ^e
NO.	NAME				
3620	Applegate near Copper	85	April-Sept.	131	65
3145	Clearwater above Trap Creek ^d	50	April-Sept.	73	69
5045	Fourmile Lake net Inflow ^d	4.5	Feb.-Sept.	8.0	56
5140	Hyatt Reservoir net Inflow ^d	2.5	April-Sept.	6.2	40
3770	Illinois River at Kerby ^d	205	March-July	314	65
		125	April-Sept.	196	64
3425	Little Butte, N. Fk. at Fish Lake nr. Lake Cr. ^d	11	April-Sept.	16.9	65
3415	Little Butte, S. Fk. near Lake Creek	22	April-July	42	52
	Note: Minimum flow will drop to 100 c.f.s. by May 10.				
3280	Rogue above Prospect	236	April-Sept.	351	67
		195	April-July	293	66
3320	Rogue, South Fork near Prospect ^d	55	April-Sept.	83	66
		46	April-July	71	65
3350	Rogue below South Fork	503	April-Sept.	749	67
		400	April-July	608	66
3590	Rogue at Raygold near Central Point	675	April-Sept.	1004	67
		566	April-July	842	67
3615	Rogue at Grants Pass	670	April-Sept.	974	69
3135	Umpqua, North blw. Lemolo Res. nr. Toketee Falls ^d	121	April-Sept.	186	65

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not Surveyed. (h) Construction. (i) 7 of 18 sampling points. (j) Partly estimated. (*) 1943-57 Adjusted average.

ROGUE, UMPQUA WATERSHEDS



10 0 10 20 30
SCALE IN MILES



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- Snow Course

Rogue, Umpqua Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Althouse	4530	1/29	1	0.1	1.1	5.1*
Annie Spring	6018	1/28	21	8.4	25.2	30.9
Beaver Dam Creek	5100	2/4	0	0.0	8.2	- -
Big Red Mountain	6500	1/29	14	5.7	14.5	20.5*
Billie Creek Divide	5300	1/25	5	1.8	16.2	17.6*
Champion	4500	1/31	7	2.4	14.4	20.1
Cold Springs Camp	6100	1/30	32	8.8	25.7	- -
Deadwood Junction	4600	2/4	0	0.0	7.6	- -
Diamond-Crater Summit	5800	1/24	20	8.2	28.0	- -
Diamond Lake	5315	1/24	9	4.1	16.9	18.3
Eden Valley Summit	2390	2/1	0	0.0	2.0	- -
Fish Lake	4865	2/4	0	0.0	11.6	10.3*
Fourmile Lake	6000	g				
Grayback Peak	6000	1/30	7	1.5	9.3	17.1*
Hobart Lake	5010	2/4	0	0.0	- -	4.9*
Howard Prairie	4500	2/4	0	0.0	8.0	- -
Hyatt Prairie Reservoir	4900	2/4	0	0.0	6.2	7.7*
Little Red Mountain	6500	1/29	9	3.1	12.9	15.1*
North Umpqua nr. Lake Cr.	4215	1/29	18	3.8	11.8	12.0*
Page Mountain	4045	1/29	1	0.1	1.0	- -
Park Headquarters	6450	1/28	35	15.0	37.6	39.0*
Red Butte #1	4560	1/24	0	0.0	8.4	- -
Red Butte #2	4000	1/24	0	0.0	4.4	- -
Red Butte #3	3500	1/24	0	0.0	3.6	- -
Red Butte #4	3000	1/24	0	0.0	1.8	- -
Red Butte #5	2500	1/24	0	0.0	0.0	- -
Red Butte #6	2000	1/24	0	0.0	0.0	- -
Rye Spring Spur	5000	2/4	0	0.0	10.0	- -
Seven Lakes #1	6800	1/28	38	13.3	42.0	37.7*
Seven Lakes #2	6200	1/28	19	5.7	31.3	28.4*
Silver Burn	3720	1/27	2	0.6	8.0	10.9
Siskiyou Summit	4630	1/31	5	2.2	3.0	7.4
South Fork Canal	3500	1/27	0	0.0	2.4	3.8
Trap Creek	3800	1/29	12	1.4	11.3	11.5*
Wagner Butte	6900	g				
Whaleback	5140	1/28	0	0.0	21.9	26.0*
Windigo Pass	5800	1/24	26	8.9	32.0	30.4*

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK KLAMATH WATERSHEDS OREGON

as of

February 1, 1963



U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK - Streamflow in Klamath Basin during the 1963 irrigation season will be much below average and the only lands that will have satisfactory water supplies are those with stored water. Most other lands will have severe water shortages.

SNOW COVER - Water content of mountain snowpack is the lowest of record for February 1 at many key snow courses. Present snow is only 22 percent of average and only one-fifth of the snowpack of last year at this date.

SOIL MOISTURE - Watershed soils have been favorably recharged with the moisture content now up to 80 percent of total capacity compared with 63 percent one year ago.

RESERVOIR STORAGE - Storage in Upper Klamath Lake is 352,400 acre feet* on February 1 compared with 299,100 a.f. one year ago. This storage is average and even with limited expected inflow will be satisfactory for irrigation.

Clear Lake storage is 112,000 a.f.** the first of the month or double the water stored a year ago. There will be sufficient irrigation water from this source although carryover for next year will be limited.

Gerber Reservoir now holds 28,200 acre feet* compared with only 1,800 a.f. one year ago. Inflow yet to come this year will be much below average, but should provide enough for satisfactory irrigation.

STREAMFLOW - Inflow to Upper Klamath Lake*, although 74 percent average in January, has totaled 114 percent average since October 1. Forecasted inflow in the February-September period is 625,000 a.f. or 59 percent average. Sprague River is forecast at 200,000 a.f. or 51 percent average and Williamson River at 275,000 a.f. or 56 percent for the February-September period.

Inflow to both Gerber and Clear Lake reservoirs** has been substantial during the period since October 1. The totals are 25,000 a.f. and 63,000 a.f. respectively. Forecasted inflows to these reservoirs for the February-June period are 25,000 a.f. for Gerber and 45,000 for Clear Lake.

* Preliminary data from Pacific Power & Light Co., Medford, Oregon

** Preliminary data from U. S. Bureau of Reclamation, Klamath Falls, Oregon

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",
"Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Ft. Klamath Valley	Fair	Poor
Lost River (Clear Lake)	Average	Average
Lost River (Gerber)	Average	Average
Lost River (Willow Res.)	Average	Fair
Sprague River	Fair	Poor
Upper Klamath Lake	Average	Average
Williamson River	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Clear Lake	440.2	112.0	56.4	208.8
Gerber	94.0	28.2	1.8	34.7
Upper Klamath Lake	584.0	352.4	299.1	348.5

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of February 1, 1963

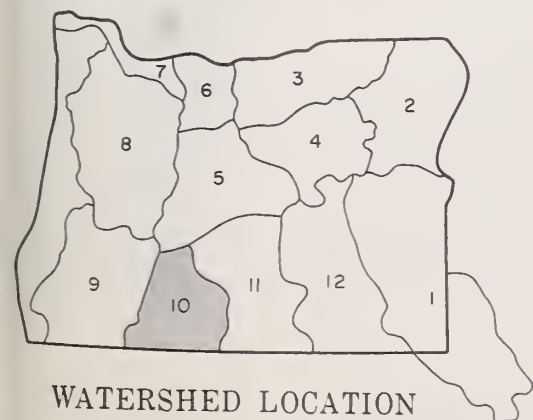
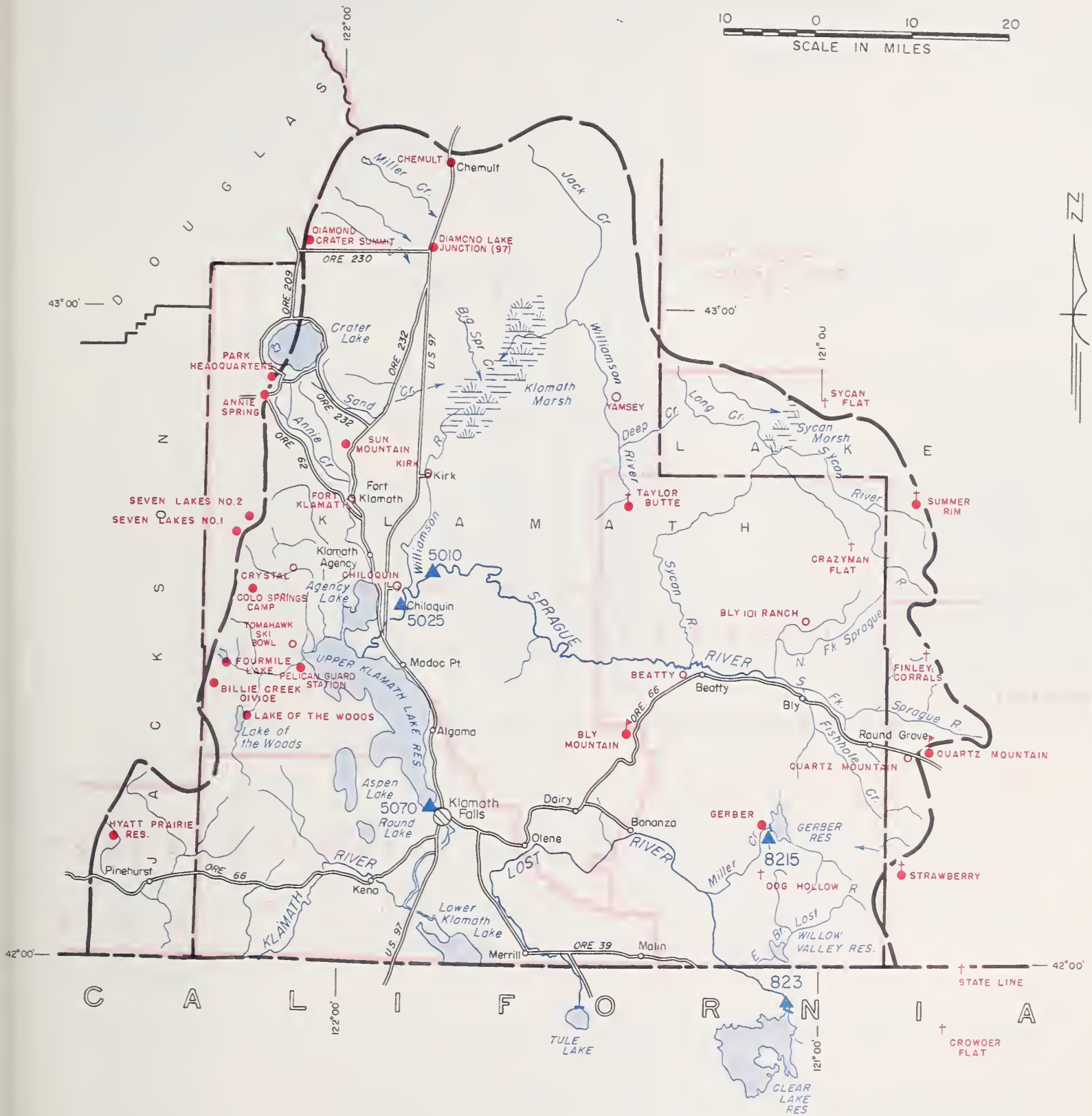
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ^c
NO.	NAME				
923	Clear Lake Reservoir Inflow ^g	45	Feb.-June	106	42
		15	April-Sept.	50	30
8215	Gerber Reservoir Inflow ^g	25	Feb.-June	51	49
		8.0	April-Sept.	25	32
5010	Sprague near Chiloquin	200	Feb.-Sept.	390	51
		123	April-Sept.	296	42
5070	Upper Klamath Lake net Inflow ^g	625	Feb.-Sept.	960	65
		375	April-Sept.	632	59
5025	Williamson below Sprague River ^d	275	Feb.-Sept.	657	56
		425	April-Sept.	486	65

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Bly Mountain	5090	42	14.0	1-29-63	11.2	8.8	10.4
Quartz Mountain	5320	48	15.3	1-29-63	7.0	5.9	6.0 ^j
NOTE: The soil moisture figures published herein are <u>not</u> comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.							

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) From PP&L or USBR records of inflow. (h) Flashboards increase capacity to 513.0 (i) Water content partly estimated. (j) Nearest current data. (k) Not surveyed. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in the base period.

KLAMATH WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- Snow Course
- † Aerial Snow Depth Gage
- COPCO Snow Station
- ▶ Soil Moisture Station

Klamath Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Annie Spring	6018	1/28	21	8.4	25.2	30.9
Beatty (PP&L)	4300	1/31	3	0.5	1.0	0.5
Billie Creek Divide	5300	1/25	5	1.8	16.2	17.6*
Bly Mountain	5090	1/29	2	0.2	7.6	- -
Bly 101 Ranch (PP&L)	4800	1/31	14	1.6	2.0	1.9
Chemult	4760	1/28	3	1.3	7.4	10.0
Chiloquin (PP&L)	4187	1/31	8	0.9	3.3	2.3
Cold Springs Camp	6100	1/30	32	8.8	25.7	- -
Crazyman Flat ^e	6100	1/28	0	0.0	8.4	- -
Crowder Flat ^e (Calif.)	5200	1/28	0	0.0	5.6	3.3*
Crystal (PP&L)	4200	1/31	10	3.0	7.5	7.8
Diamond-Crater Summit	5800	1/24	20	8.2	28.0	- -
Diamond Lake Junction (97)	4600	1/24	0	0.0	4.4	- -
Dog Hollow ^e	4900	1/28	0	0.0	1.7	- -
Finley Corrals ^e	6000	1/28	0	0.0	12.6	- -
Fort Klamath (PP&L)	4150	1/31	12	1.6	3.7	3.9
Gerber	4850	1/31	T	T	3.4	2.6*
Hyatt Prairie Reservoir	4900	2/4	0	0.0	6.2	7.7*
Kirk (PP&L)	4533	1/31	16	2.3	5.2	6.4
Lake of the Woods	4960	k				
Park Headquarters	6450	1/28	35	15.0	37.6	39.0*
Pelican Guard Station	4150	1/29	1	0.3	3.9	- -
Quartz Mountain	5320	1/29	1	0.1	6.5	5.8
Quartz Mountain (PP&L)	5504	1/29	1	0.1	7.0	5.8*
Seven Lakes #1	6800	1/28	38	13.3	42.0	37.7*
Seven Lakes #2	6200	1/28	19	5.7	31.3	28.4*
State Line ^e (Calif.)	5750	1/28	0	0.0	10.1	- -
Strawberry	5600	1/27	0	0.0	8.0	7.6*
Summer Rim ^e	7200	1/28	6	0.8	9.0	- -
Sun Mountain	5350	1/24	1	3.8	14.9	20.2
Sycan Flat ^e	5500	1/28	0	0.0	9.0	- -
Taylor Butte	5100	1/23	0	0.0	5.7	4.9*
Tomahawk Ski Bowl (PP&L)	4200	1/31	6	1.3	1.8	4.5
Yamsey (PP&L)	4600	1/31	12	2.5	4.7	4.1*

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK LAKE COUNTY, GOOSE LAKE WATERSHEDS OREGON

as of
February 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1963 spring and summer streamflow in Lake County will be greatly below average and most irrigated lands will experience "short" water supplies.

SNOW COVER

The mountain snowpack is the "shortest" ever measured in this region since the beginning of snow surveys 35 years ago. Water content of the snow is only 3 percent of the average for February 1. Measurable snow was present on only 7 out of 17 snow courses.

It is highly unlikely that remaining winter storms will "make up" the present shortage of snow cover. In fact, the shortage is so great that normal snowfall occurring between now and April 1 will raise the total snowpack to only one-half of the average.

SOIL MOISTURE

Soils in the upper watersheds have been adequately recharged and moisture content is now up to 85 percent of the total capacity.

RESERVOIR STORAGE

Storage in Drews Valley Reservoir has reached 23,900 acre feet as of February 1 and a good inflow has been received during the first few days of February. Last year, only 800 a.f. were held in storage. Cottonwood now has better than 1,700 a.f.

Expected inflow to these reservoirs will be very limited and total supply will barely equal the amount required for satisfactory irrigation this season.

STREAMFLOW

Streamflow in Lake County will be extremely short this irrigation season. In general, the streams will produce about equal to the 1959 flows.

Drew Reservoir inflow is forecast at 15,000 acre feet or 32 percent average for the March-July period. The Chewaucan River is forecast at 40,000 a.f. March-June or 43 percent of the average (1943-57).

Warner Valley water supplies are dependent upon several streams including Deep Creek which is forecast to flow 35,000 acre feet or 42 percent March through June. Twenty-mile Creek and Honey Creek are expected to flow 10,000 a.f. and 8,000 a.f. respectively for the same period.

The above forecasts are made on the assumption that snowfall between now and April 1 will be normal.

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair"
"Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Chewaucan River	Fair	Poor
Crooked Creek	Fair	Poor
Deep Creek	Fair	Poor
Dry Creek	Fair	Poor
East Side Goose Lake	Fair	Poor
Guano Lake	Fair	Poor
Honey Creek	Fair	Poor
Lakeview Water Users Assn.	Fair	Fair
Rock Creek (Hart Mtn.)	Fair	Poor
Silver-Buck Creeks	Fair	Poor
Summer Lake	Fair	Poor
Thomas Creek	Fair	Poor
Twentymile Creek	Fair	Poor
Warner Lakes	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1963

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1943-57 AVERAGE
Cottonwood	4.1	1.7	0.1	0.3
Drew	63.0	23.9	0.8	37.5

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of February 1, 1963

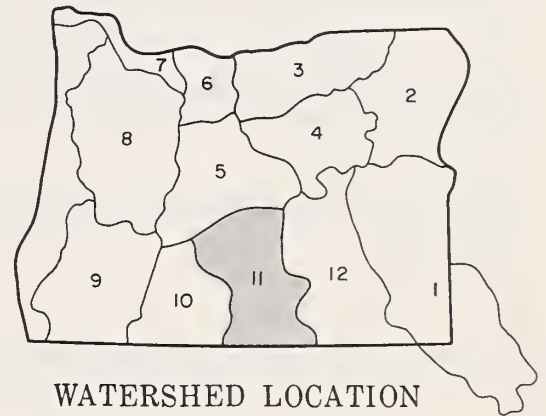
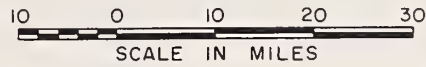
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE ^b
NO.	NAME				
3840	Chewaucan near Paisley	40	March-June	92	43
		c	April-June	82	
3715	Deep above Adel	35	March-June	83	42
		c	April-June	71	
3385	Drew Reservoir net Inflow	15	March-July	47	32
		c	April-July	34	
3785	Honey near Plush	8.0	March-June	19.2	42
		c	April-June	16.3	
3660	Twentymile near Adel	10	March-June	28	36
		c	April-June	20	

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
Camas Creek	5720	42	14.5	1-28-63	12.3	9.1	- -
Quartz Mountain	5320	48	15.3	1-29-63	7.0	5.9	6.0 ^g
NOTE: The soil moisture figures published herein are <u>not</u> comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.							

(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period. (g) Nearest current data.

LAKE COUNTY, GOOSE LAKE WATERSHEDS



LEGEND

- Watershed Boundary
- ... Sub-watershed Boundary
- - - Soil Conservation District Bdry
- - - County Boundary
- ▲ Forecast Point
- Snow Course
- † Aerial Snow Depth Gage
- COPCO Snow Station
- ▶ Soil Moisture Station

Lake County, Goose Lake Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Bald Mountain (Nev.)	6720	c				
Bear Flat Meadow ^e	5900	1/28	0	0.0	7.6	- -
Camas Creek	5720	1/28	0	0.0	8.6	8.5
Cox Flat ^e	5750	1/28	0	0.0	7.6	- -
Crane Mountain ^e	6020	1/28	0	0.0	3.6	- -
Crowder Flat ^e (Calif.)	5200	1/28	0	0.0	5.6	3.3*
Dismal Swamp ^e (Calif.)	7000	1/28	6	1.5	9.9	- -
Finley Corrals ^e	6000	1/28	0	0.0	12.6	- -
Hart Mountain ^e	6350	1/28	0	0.0	1.2	- -
Little Bally Mtn. ^e (Nev.)	6600	1/28	0	0.0	3.6	- -
Mill Creek	6200	c				
Patton Meadows ^e	6800	1/28	3	0.4	- -	- -
Quartz Mountain (PP&L)	5504	1/29	1	0.1	7.0	5.8*
Quartz Mountain	5320	1/29	1	0.1	6.5	5.8
Sherman Valley ^e	6600	1/28	1	0.1	10.8	- -
Silver Creek	4900	1/30	7	0.9	3.9	3.5*
State Line ^e (Calif.)	5750	1/28	0	0.0	10.1	- -
Strawberry	5600	1/27	0	0.0	8.0	7.6*
Summer Rim ^e	7200	1/28	6	0.8	9.0	- -
Sycan Flat ^e	5500	1/28	0	0.0	9.0	- -



WATER SUPPLY OUTLOOK HARNEY BASIN WATERSHEDS OREGON

as of
February 1, 1963

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ... OREGON STATE ENGINEER

GENERAL OUTLOOK

The outlook for 1963 spring and summer streamflow in Harney County is extremely poor due to a record-low snowpack.

SNOW COVER

Water content of the mountain snowpack is just 26 percent of the February 1 average and is limited to the higher elevations.

It is highly unlikely that remaining winter storms will "make up" the present shortage of snow cover. In fact, the shortage is so great that normal snowfall occurring between now and April 1 will increase the total snowpack to only 40 percent of the average.

SOIL MOISTURE

Watershed soils are well recharged. Moisture is now up to 85 percent of total capacity compared with 59 percent one year ago.

RESERVOIR STORAGE

There are no large reservoirs in Harney Basin, but the small ones will really "save the day" this year for the lands they will serve.

STREAMFLOW

The high flows seen in local streams at the opening of the month represents "lost" water as far as the coming irrigation season is concerned for those flows came partly from melting snow which is gone and cannot contribute next spring.

Forecasted streamflows are all very poor. The Silvies River is expected to flow 45,000 acre feet or 36 percent average in the March-June period. Silver Creek will produce only 10,000 a.f. or 38 percent average for the April-September period. These flows will be similar to the "short" flows measured in 1955.

The Blitzen River is forecast at 26,000 acre feet or 41 percent average for March-June. This will be much the same as the flow received in 1959.

Trout Creek near Denio will produce about 4,200 acre feet or 44 percent average March-July. This will be about the same as in 1961.

Smaller streams will have very "short" flows and may provide only one irrigation this season.

The above forecasts are made on the assumption that snowfall between now and April 1 will be normal.

Report prepared by
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209 S.W. FIFTH AVENUE - PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK

expressed as "Poor", "Fair",
"Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.)

February 1, 1963

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Catlow Valley	Fair	Poor
Cow Creek	Fair	Poor
Donner und Blitzen River	Fair	Poor
Mill-Coffeepot Creeks	Fair	Poor
Rattlesnake Creek	Fair	Poor
Silver Creek	Fair	Poor
Silvies River	Fair	Poor
Soldier-Prather Creek	Fair	Poor
Trout Creek	Fair	Poor
Whitehorse Creek	Fair	Poor

[illegible]

STREAMFLOW FORECASTS^a(1,000 Ac. Ft.) as of February 1, 1963

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1943-57 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE
NO.	NAME				
3960	Donner und Blitzen near Frenchglen	26	March-June	63	41
		27	April-Sept.	67	40
4030	Silver near Riley	10	April-July	26	38
3935	Silvies near Burns	45	March-June	124	36
		30	April-Sept.	107	28
4065	Trout near Denio	4.2	March-July	9.5	44
		3.5	April-Sept.	9.2	38

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Springs	5900	42	16.9	1-28-63	11.5	8.3	7.5
Fish Creek	7600	48	15.0	10-22-62	9.2 ^j	- -	- -
Folly Farm	4450	36	12.5	12-19-62	9.0 ^j	- -	- -
Silvies	6900	48	16.4	10-22-62	11.7 ^j	- -	- -
Snow Mountain	6300	48	16.7	1-22-63	13.4	- -	- -
Starr Ridge	5150	36	10.6	1-28-63	10.2	7.9	8.1
Stinking Water	4800	48	21.9	1-22-63	21.0	20.7 ^j	21.2 ^j
Willow-Bald	5000	24	6.6	1-22-63	6.0	3.4 ^j	3.8 ^j

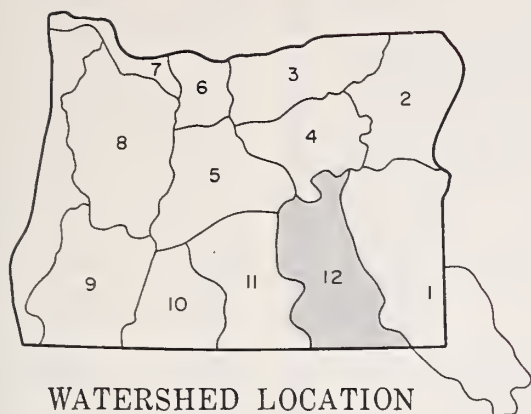
NOTE: The soil moisture figures published herein are not comparable to those published last year and earlier due to a change in the scale of evaluation. The new figures represent total moisture in the soil rather than moisture available to plants.

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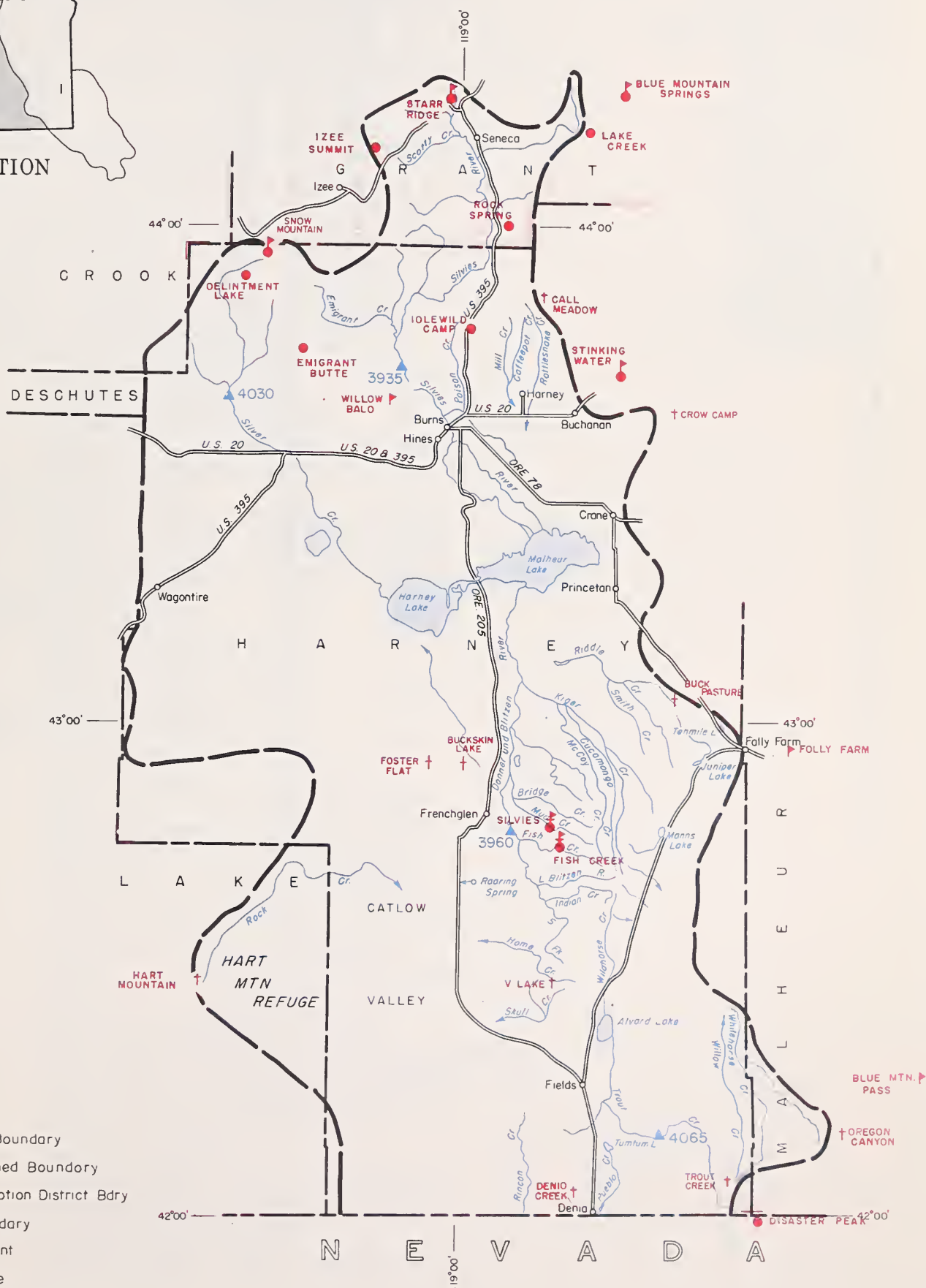
(a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Not surveyed. (h) Partly estimated. (i) No Fall measurement. (j) Nearest current data. (k) 2 miles south of regular course. (*) 1943-57 Adjusted average. (**) Average for 5 or more years in base period.

HARNEY BASIN WATERSHEDS

10 0 10 20 30
SCALE IN MILES



WATERSHED LOCATION



LEGEND

- Watershed Boundary
- - - Sub-watershed Boundary
- - - Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- Snow Course
- † Aerial Snow Depth Gage
- ▶ Soil Moisture Station

Harney Basin Watersheds

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
NAME	ELEVATION				LAST YEAR	1943-57 AVERAGE
Blue Mountain Spring	5900	1/28	12	3.6	11.3	11.3
Buck Pasture ^e	5700	1/23	0	0.0	0.8	--
Buckskin Lake ^e	5200	1/28	0	0.0	1.7	--
Call Meadows ^e	5340	1/23	T	T	1.6	--
Crow Camp ^e	5500	1/23	0	0.0	--	--
Delintment Lake	5600	1/22	3	0.6	--	--
Denio Creek ^e	6000	1/28	0	0.0	0.8	--
Disaster Peak (Nev.)	6500	c				
Emigrant Butte	5000	1/22	0	0.0	--	--
Fish Creek ^e	7900	1/28	21	5.2	10.9	--
Foster Flat ^e	5020	1/28	0	0.0	1.7	--
Hart Mountain ^e	6350	1/28	0	0.0	1.2	--
Idlewild Camp	5200	1/29	5	0.2	4.0	4.5
Izee Summit	5293	1/28	7	1.8	6.5	6.8*
Lake Creek	5120	1/30	11	2.0	4.7 ^k	--
Oregon Canyon ^e	6950	1/23	T	T	3.9	--
Rock Spring	5100	1/29	7	0.9	2.5	4.7
Silvies ^e	6900	1/28	2	0.4	4.2	--
Snow Mountain	6300	1/22	9	2.8	--	--
Starr Ridge	5150	1/28	5	1.3	5.1	5.0*
Stinking Water	4800	1/31	8	1.5	2.3	3.6*
Trout Creek ^e	7800	1/23	8	2.0	3.4	--
"V" Lake ^e	6600	1/28	0	0.0	0.8	--

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE

- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon State University
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil Conservation Districts of Oregon

COUNTY

- Douglas County Water Resources Survey

FEDERAL

- Department of Agriculture
 - Cooperative Extension Service
 - Forest Service
 - Soil Conservation Service
- Department of Commerce
 - Weather Bureau
- Department of the Interior
 - Bonneville Power Administration
 - Bureau of Land Management
 - Bureau of Reclamation
 - Fish and Wildlife Service
 - Geological Survey
 - National Park Service
- Department of National Defense
 - Corps of Army Engineers

PUBLIC UTILITIES

- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific Utilities Company

MUNICIPALITIES

- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS

- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Jordan Valley Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warm Springs Irrigation District

PRIVATE ORGANIZATIONS

- Amalgamated Sugar Company
- The Crag Rats, Hood River, Oregon

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*"The Conservation of Water begins
with the Snow Survey"*